



STATE OF MAINE
Department of Environmental Protection

Paul R. Lepage
GOVERNOR

Patricia W. Aho
COMMISSIONER

June 8, 2015

Mr. James Leighton
Limestone Water & Sewer District
6 Water Company Road
P.O. Box 544
Limestone, Maine 04750
e-mail: lwsd@maine.rr.com

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102849
Maine Waste Discharge License (WDL) Application # W-006654-6D-K-R
Proposed Draft MEPDES/WDL

Dear Mr. Leighton:

Enclosed is a **proposed draft** MEPDES permit and Maine WDL (permit hereinafter) which the Department proposes to issue as a final document after opportunity for your review and comment. By transmittal of this letter you are provided with an opportunity to comment on the proposed draft permit and its conditions (special conditions specific to this permit are enclosed; standard conditions applicable to all permits are available upon request). If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

By copy of this letter, the Department is requesting comments on the proposed draft permit from various state and federal agencies, as required by our new regulations, and from any other parties who have notified the Department of their interest in this matter.

All comments must be received in the Department of Environmental Protection office on or before the close of business **Wednesday, July 8, 2015**. Failure to submit comments in a timely fashion will result in the final document being issued as drafted. Comments in writing should be submitted to my attention at the following address:

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

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-3901 FAX: (207) 287-3435
RAY BLDG., HOSPITAL ST.

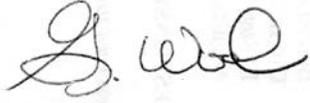
BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-6477 FAX: (207) 764-1507

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

Sincerely,

A handwritten signature in black ink, appearing to read "G. Wood". The signature is fluid and cursive, with the first name "G." and the last name "Wood" clearly distinguishable.

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

Enc.

cc: William Sheehan, DEP/NMRO
Lori Mitchell, DEP/CMRO
David Webster, USEPA
David Pincumbe, USEPA
Alex Rosenberg, USEPA
Olga Vergara, USEPA
Maine Department of Marine Resources
Maine Inland Fisheries & Wildlife
Ivy Frignoca, CLF
Sharri Venno, Houlton Band of Maliseet Indians
Fred Corey, Aroostook Band of Micmac Indians



DEPARTMENT ORDER

IN THE MATTER OF

LIMESTONE WATER & SEWER DISTRICT)	MAINE POLLUTANT DISCHARGE
CARIBOU, AROOSTOOK COUNTY, MAINE)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS)	
ME0102849)	AND
W006654-6D-K-R)	WASTE DISCHARGE LICENSE
APPROVAL)	RENEWAL

In compliance with the *Federal Water Pollution Control Act*, Title 33 USC, §1251, *Conditions of licenses*, 38 M.R.S.A. § 414-A, and applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the LIMESTONE WATER & SEWER DISTRICT (LWSD/permittee hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On October 16, 2013, the permittee submitted a timely and complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102849/ Maine Waste Discharge License (WDL) #W006654-5L-F-R, (permit hereinafter) which was issued by the Department on March 11, 2009, for a five-year term. The 3/11/09 MEPDES permit authorized permittee to discharge a monthly average discharge of 1.25 million gallons per day (MGD) of secondary treated sanitary wastewater to the Aroostook River, Class C, in Caribou, Maine.

It is noted the Department made five permit revisions since issuing the 3/11/09 permit. On 3/11/09 permit was modified on May 27, 2009, for the purpose of reducing the number of days required between sampling events from at least two days to at least one day for parameters that are monitored biweekly. On March 9, 2011, the permit was modified to establish and implement an Asset Management Program and a Repair and Replacement Account to comply with the 2010 Clean Water State Revolving Fund requirements. On December 20, 2011, the permit was modified to establish the Aroostook River, Class C, as the new receiving water body for the discharge, which required a modification to the dilution factor and consequent changes to the discharge limits of the following parameters; total residual chlorine, *E. coli* bacteria, whole effluent toxicity thresholds, and eliminating the requirement to test for total phosphorous. On January 10, 2013, the permit was modified to reflect the findings of an up-to-date statistical evaluation of the Aroostook River. It established water quality based limitations for the following toxic pollutants that exceed or had a reasonable potential to exceed applicable ambient water quality criteria; total arsenic, total aluminum, inorganic arsenic, bis(2-ethylhexyl)phthalate, total copper and total zinc and incorporated the average and maximum concentration limits for total mercury. On July 22, 2013, the permit was modified to remove the monthly average limitations, monitoring requirements, reporting requirements and schedule of compliance for inorganic arsenic and total arsenic from the permit subsequent to the revision of the arsenic criteria water quality standards and the results of a statistical evaluation on arsenic data conducted on July 19, 2013.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the previous permitting actions except it is:

1. Revising the monitoring frequencies at Outfall #001A for biochemical oxygen demand (BOD₅), total suspended solids (TSS), settleable solids, *E coli* bacteria, and total residual chlorine (TRC) based on a statistical analysis in accordance with the methodology established in the U.S. Environmental Protection Agency's "*Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies*" (United States Environmental Protection Agency (USEPA) 1996) and
2. Incorporating the interim mercury limits established by the Department for this facility pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Waste discharge licenses*, 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001); and supplemental guidance by the Department EPA entitled, *Performance Based Reduction of Monitoring Frequencies - Modification of EPA Guidance Released April 1996* (Maine DEP May 22, 2014).
3. Eliminating the waiver from the requirement to achieve 85 percent removal for BOD₅ and TSS.
4. Establishing revised dilution factors associated with the discharge based on a review of 2011 gauge data for the Aroostook River evaluated by the Department.
5. Establishing monthly average and or daily maximum water quality based mass limitations for total aluminum and total copper.

CONCLUSIONS

Based on the findings summarized in the attached **PROPOSED DRAFT** Fact Sheet dated April 7, 2015, 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, *Classification of Maine waters*, 38 M.R.S.A. § 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;

CONCLUSIONS (cont'd)

- (b) Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;
 - (c) 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 water 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 discharges will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S.A. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of the LIMESTONE WATER & SEWER DISTRICT to discharge a monthly average discharge of 1.25 million gallons per day (MGD) of secondary treated sanitary wastewater to the Aroostook River, Class C, in Caribou, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the authorization to discharge and the terms and conditions of this permit and all 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) (amended August 25, 2013)]

ACTION (cont'd)

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS _____ DAY OF _____, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For Patricia W. Aho, Commissioner

Date of initial receipt of application: October 15, 2013

Date of application acceptance: October 16, 2013

Date filed with Board of Environmental Protection _____

This Order prepared by Gregg Wood, BUREAU OF LAND & WATER QUALITY

Proposed Draft Permit PSID 2015 6/8/15

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge **secondary treated municipal (sanitary) wastewater from Outfall #001A** to the Aroostook River at Caribou. Such discharges are limited and must be monitored by the permittee as specified below⁽¹⁾:

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow <i>[50050]</i>	Report MGD <i>[03]</i>	---	Report MGD <i>[03]</i>	---	---	---	Continuous <i>[99/99]</i>	Recorder <i>[RC]</i>
BOD₅ <i>[00310]</i>	313 lbs./day <i>[26]</i>	469 lbs./day <i>[26]</i>	521 lbs./day <i>[26]</i>	30 mg/L <i>[19]</i>	45 mg/L <i>[19]</i>	50 mg/L <i>[19]</i>	1/Week <i>[01/07]</i>	24-Hour Composite <i>[24]</i>
BOD₅ Percent Removal⁽²⁾ <i>[81010]</i>	---	---	---	85% <i>[11]</i>	---	---	1/Month <i>[01/30]</i>	Calculate <i>[CA]</i>
TSS <i>[00530]</i>	313 lbs./day <i>[26]</i>	469 lbs./day <i>[26]</i>	521 lbs./day <i>[26]</i>	30 mg/L <i>[19]</i>	45 mg/L <i>[19]</i>	50 mg/L <i>[19]</i>	1/Week <i>[01/07]</i>	24-Hour Composite <i>[24]</i>
TSS Percent Removal⁽²⁾ <i>[81011]</i>	---	---	---	85% <i>[11]</i>	---	---	1/Month <i>[01/30]</i>	Calculate <i>[CA]</i>
Settleable Solids <i>[00545]</i>	---	---	---	---	---	0.3 ml/L <i>[25]</i>	1/Week <i>[1/Week]</i>	Grab <i>[GR]</i>
<i>E. coli</i> Bacteria⁽³⁾ (May 15 – Sept. 30) <i>[31633]</i>	---	---	---	126/100 ml ⁽⁴⁾ <i>[13]</i>	---	949/100 ml <i>[13]</i>	1/Week <i>[01/07]</i>	Grab <i>[GR]</i>
Total Residual Chlorine⁽⁵⁾ <i>[50060]</i>	---	---	---	---	---	1.0 mg/L <i>[19]</i>	3/Week <i>[03/07]</i>	Grab <i>[GR]</i>
pH (Standard Units) <i>[00400]</i>	---	---	---	---	---	6.0 – 9.0 SU <i>[12]</i>	3/Week <i>[03/07]</i>	Grab <i>[GR]</i>
Mercury⁽⁶⁾ <i>[71900]</i>	---	---	---	4.6 ng/L <i>[3M]</i>	---	6.9 ng/L <i>[3M]</i>	1/Year <i>[01/YR]</i>	24-Hour Composite <i>[24]</i>
Bis (2-ethylhexyl) phthalate <i>[16770]</i>	3.9 lbs./day <i>[26]</i>	---	---	Report ug/L <i>[28]</i>	---	---	2/Year <i>[02/YR]</i>	24-Hour Composite <i>[24]</i>
Aluminum (Total) <i>[01105]</i>	3.1 lbs/day <i>[26]</i>	---	---	Report ug/L <i>[19]</i>	---	---	2/Year <i>[02/YR]</i>	24-Hour Composite <i>[24]</i>
Copper (Total) <i>[01042]</i>	0.60 lbs./day <i>[26]</i>	---	0.69 lbs./day <i>[26]</i>	Report mg/L <i>[19]</i>	---	Report mg/L <i>[19]</i>	2/Year <i>[02/YR]</i>	24-Hour Composite <i>[24]</i>

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 7 through 10 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

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

	Daily Maximum	Minimum Frequency	Sample Type
WHOLE EFFLUENT TOXICITY (WET) ⁽⁷⁾			
<u>Acute No Observed Effect Level (A-NOEL)</u>			
Water Flea (<i>Ceriodaphnia dubia</i>) [TDA3B]	Report % [23]	1/2 Years [01/2Y]	Composite [24]
Brook Trout (<i>Salvelinus fontinalis</i>) [TDA6F]	Report % [23]	1/2 Years [01/2Y]	Composite [24]
<u>Chronic No Observed Effect Level (C-NOEL)</u>			
Water Flea (<i>Ceriodaphnia dubia</i>) [TBP3B]	Report % [23]	1/2 Years [01/2Y]	Composite [24]
Brook Trout (<i>Salvelinus fontinalis</i>) [TBQ6F]	Report % [23]	1/2 Years [01/2Y]	Composite [24]
Analytical Chemistry^(8,10) [51477]	Report ug/L [28]	1/2 Years [01/2Y]	Composite/Grab [24]

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 7 through 10 of this permit for applicable footnotes

SPECIAL CONDITIONS

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

3. **SCREENING LEVEL TESTING** - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the term of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement⁽¹⁾.

	Daily Maximum	Minimum Frequency	Sample Type
WHOLE EFFLUENT TOXICITY (WET) ⁽⁷⁾			
<u>Acute No Observed Effect Level (A-NOEL)</u>			
Water Flea (<i>Ceriodaphnia dubia</i>) [TDA3B]	Report % [23]	2/Year [02/YR]	Composite [24]
Brook Trout (<i>Salvelinus fontinalis</i>) [TDA6F]	Report % [23]	2/Year [02/YR]	Composite [24]
<u>Chronic No Observed Effect Level (C-NOEL)</u>			
Water Flea (<i>Ceriodaphnia dubia</i>) [TBP3B]	Report % [23]	2/Year [02/YR]	Composite [24]
Brook Trout (<i>Salvelinus fontinalis</i>) [TBQ6F]	Report % [23]	2/Year [02/YR]	Composite [24]
Analytical Chemistry ^(8,10) [51477]	Report µg/L [28]	1/Quarter [01/90]	Composite/Grab [24/GR]
Priority Pollutant ^(9,10) [50008]	Report µg/L [28]	1/Year [01/YR]	Composite/Grab [24/GR]

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 7 through 10 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

Footnotes:

1. **Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 or laboratory facilities that analyze compliance samples in-house are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).
2. **Percent Removal** – The permittee must achieve a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand for all flows receiving secondary treatment. The percent removal is calculated based on influent and effluent concentration values.
3. **Bacteria Limits** – *E. coli* bacteria limits and monitoring requirements are seasonal and apply between May 15 and September 30 of each year. The Department reserves the right to require year-round bacteria limits to protect the health, safety and welfare of the public.
4. **Bacteria Reporting** – The monthly average *E. coli* bacteria limitation is a geometric mean limitation and sample results must be reported as such.
5. **TRC Monitoring** – Monitoring for TRC is only required when elemental chlorine or chlorine-based compounds are in use for effluent disinfection. For instances when a facility has not disinfected with chlorine-based compounds for an entire reporting period, the facility shall report "NODI-9" for this parameter on the monthly DMR. The permittee shall utilize approved test methods that are capable of bracketing the TRC limitation in this permit.
6. **Mercury** – The permittee must conduct all mercury sampling required by this permit or required to determine compliance with interim limitations established pursuant to 06-096 CMR 519 in accordance with the USEPA's "clean sampling techniques" found in USEPA Method 1669, *Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels*. All mercury analysis must be conducted in accordance with USEPA Method 1631, *Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry*. See **Attachment A** for a Department report form for mercury test results. Compliance with the monthly average limitation established in this permit will be based on the cumulative arithmetic mean of all mercury tests results that were conducted utilizing sampling Methods 1669 and analysis Method 1631E on file with the Department for this facility.

SPECIAL CONDITIONS

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

Footnotes:

7. **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 thresholds of 1.4% and 1.2% respectively), which provides an estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points. The critical acute and chronic thresholds were derived as the mathematical inverse of the applicable acute and chronic dilution factors of 70:1 and 83:1, respectively.
 - a. **Surveillance level testing** - Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee must initiate surveillance level acute and chronic WET testing at a minimum frequency of once every other year (1/2 Years) for both the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). Testing must be conducted in a different calendar quarter each sampling event.
 - b. **Screening level testing** - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the term of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee must conduct screening level acute and chronic WET testing at a minimum frequency of twice per year (2/Year) for both species. Acute and chronic tests must be conducted on the *water flea* (*Ceriodaphnia dubia*) and the *brook trout* (*Salvelinus fontinalis*), respectively. Testing must be conducted in a different calendar quarter each sampling event.

WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee must evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 1.4% and 1.2%, respectively. See **Attachment B** of this permit for WET reporting forms.

SPECIAL CONDITIONS

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

Footnotes:

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 as modified by Department protocol for the brook trout. See **Attachment C** of this permit for the Department protocol.

- 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.

Results of WET tests must be reported on the “Whole Effluent Toxicity Report Fresh Waters” form included as **Attachment B** of this permit each time a WET test is performed. The permittee is required to analyze the effluent for the analytical chemistry parameters specified on the “WET and Chemical Specific Data Report Form” form included as **Attachment B** of this permit each time a WET test is performed.

8. **Analytical Chemistry** – Refers to those pollutants listed under “Analytical Chemistry” on the form included as **Attachment D** of this permit.
 - a. **Surveillance level testing** - Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee must conduct analytical chemistry testing at a minimum frequency of once every two years . As with WET testing, testing must be conducted in a different calendar quarter of each year.
 - b. **Screening level testing** - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the term of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee must conduct screening level analytical chemistry testing at a minimum frequency of two times per year (2/Year) in successive calendar quarters.
9. **Priority Pollutant Testing** – Refers to those pollutants listed under “Priority Pollutants” on the form included as **Attachment D** of this permit.
 - a. **Surveillance level testing** – Priority pollutant testing is not required for this facility pursuant to Department rule Chapter 530, § 2(D)(1).

SPECIAL CONDITIONS

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

Footnotes:

- b. **Screening level testing** - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the term of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee must conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year) in any calendar quarter provided the sample is representative of the discharge and any seasonal or other variations in effluent quality.
10. **Analytical chemistry and priority pollutant tests** - Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided however, that the permittee may review the toxicity reports for up to 10 business days of their availability 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 *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005). For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the uses designated for the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated for the classification of the receiving waters.
3. The permittee must not discharge effluent that causes visible discoloration or turbidity in the receiving waters that causes those waters to be unsuitable for the designated uses and characteristics ascribed to their class.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of **Grade III** certificate (or Registered Maine Professional Engineer) pursuant to *Sewerage Treatment Operators*, 32 M.R.S.A. §§ 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

D. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on October 16, 2013; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. Discharges of wastewater from any other point source(s) are not authorized under this permit, and must be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

E. NOTIFICATION REQUIREMENTS

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

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and
2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants to the system at the time of permit issuance.
3. 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 impact of the change in the quantity or quality of the waste water to be discharged from the treatment system.

F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the wastewater collection and treatment system by a non-domestic source (user) must not pass through or interfere with the operation of the treatment system. The permittee must conduct an Industrial Waste Survey (IWS) any time a new industrial user proposes to discharge within its jurisdiction; an existing user proposes to make a significant change in its discharge; or at an alternative minimum, once every permit cycle and submit the results to the Department. The IWS must identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of the federal Clean Water Act, 40 CFR Part 403 (general pretreatment regulations) or *Pretreatment Program*, 06-096 CMR 528 (last amended March 17, 2008).

SPECIAL CONDITIONS

G. OPERATIONS AND MAINTENANCE (O&M) PLAN

The permittee must maintain a current written comprehensive Operation & Maintenance (O&M) Plan for the facility. The plan must provide a systematic approach by which the permittee must 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 must evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan must be kept on-site at all times and made available to Department and USEPA personnel upon request.

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

H. WET WEATHER MANAGEMENT PLAN

The permittee must maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. A specific objective of the plan must be to maximize the volume of wastewater receiving secondary treatment under all operating conditions. The revised plan must include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

The permittee must review their plan at least annually and record any necessary changes to keep the plan up to date. The Department may require review and update of the plan as it is determined to be necessary.

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

By December 31 of each calendar year, the permittee must provide the Department with a certification describing any of the following that have occurred since the effective date of this permit *[ISIS Code 96299]*. See **Attachment F** of the Fact Sheet for an acceptable certification form to satisfy this Special Condition.

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

SPECIAL CONDITIONS

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

- (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 must provide the Department with statements describing;

- (d) Changes in stormwater collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge; and
- (e) Increases in the type or volume of transported (hailed) wastes accepted by the facility.

The Department may require that annual testing be re-instated if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY

Pursuant to this permit and *Standards for the Addition of Transported Wastes to Wastewater Treatment Facilities*, 06-096 CMR 555 (effective March 9, 2009), during the effective period of this permit, the permittee is authorized to receive into the treatment process or solids handling stream up to **a daily maximum of 10,000 gallons per day (gpd)** of transported wastes, subject to the following terms and conditions.

1. "Transported wastes" means any liquid non-hazardous waste delivered to a wastewater treatment facility by a truck or other similar conveyance that has different chemical constituents or a greater strength than the influent described on the facility's application for a waste discharge license. Such wastes may include, but are not limited to septage, industrial wastes or other wastes to which chemicals in quantities potentially harmful to the treatment facility or receiving water have been added.
2. The character and handling of all transported wastes received must be consistent with the information and management plans provided in application materials submitted to the Department.
3. At no time shall the addition of transported wastes cause or contribute to effluent quality violations. Transported wastes may not cause an upset of or pass through the treatment process or have any adverse impact on the sludge disposal practices of the wastewater treatment facility.

Wastes that contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation must be refused. Odors and traffic from the handling of transported wastes may not result in adverse impacts to the surrounding community. If any adverse effects exist, the receipt or introduction of transported wastes into the treatment process or solids handling stream shall be suspended until there is no further risk of adverse effects.

SPECIAL CONDITIONS

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY

4. The permittee shall maintain records for each load of transported wastes in a daily log which shall include at a minimum the following.
 - (a) The date;
 - (b) The volume of transported wastes received;
 - (b) The source of the transported wastes;
 - (d) The person transporting the transported wastes;
 - (e) The results of inspections or testing conducted;
 - (f) The volumes of transported wastes added to each treatment stream; and
 - (g) The information in (a) through (d) for any transported wastes refused for acceptance.

These records shall be maintained at the treatment facility for a minimum of five years.

5. The addition of transported wastes into the treatment process or solids handling stream shall not cause the treatment facility's design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of transported wastes into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.
6. Holding tank wastewater from domestic sources to which no chemicals in quantities potentially harmful to the treatment process have been added shall not be recorded as transported wastes but should be reported in the treatment facility's influent flow.
7. During wet weather events, transported wastes may be added to the treatment process or solids handling facilities only in accordance with a current Wet Weather Flow Management Plan approved by the Department that provides for full treatment of transported wastes without adverse impacts.
8. In consultation with the Department, chemical analysis is required prior to receiving transported wastes from new sources that are not of the same nature as wastes previously received. The analysis must be specific to the type of source and designed to identify concentrations of pollutants that may pass through, upset or otherwise interfere with the facility's operation.
9. Access to transported waste receiving facilities may be permitted only during the times specified in the application materials and under the control and supervision of the person responsible for the wastewater treatment facility or his/her designated representative.
10. The authorization is subject to annual review and, with notice to the permittee and other interested parties of record, may be suspended or reduced by the Department as necessary to ensure full compliance with Chapter 555 of the Department's rules and the terms and conditions of this permit.

SPECIAL CONDITIONS

K. MONITORING AND REPORTING

Monitoring results obtained during the previous month must 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 (13th) day of the month or hand-delivered to the Department's Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. A signed copy of the DMR and all other reports required herein must be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

Department of Environmental Protection
Bureau of Land and Water Quality
Division of Water Quality Management
1235 Central Drive, Skyway Park
Presque Isle, Maine 04769-2094

Alternatively, if the permittee submits 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. REOPENING OF PERMIT FOR MODIFICATION

In accordance with 38 M.R.S.A. § 414-A(5) and upon evaluation of the tests results or monitoring requirements specified in 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 any time 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.

M. SEVERABILITY

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit must remain in full force and effect, and must 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

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:	<table border="1"><tr><td> </td><td> </td><td> </td></tr><tr><td>mm</td><td>dd</td><td>yy</td></tr></table>				mm	dd	yy	Sampling time:	_____ AM/PM
mm	dd	yy							
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 certify that to the best of my knowledge the foregoing information is correct and representative of conditions at the time of sample collection. The sample for mercury was collected and analyzed using EPA Methods 1669 (clean sampling) and 1631 (trace level analysis) in accordance with instructions from the DEP.	
By: _____	Date: _____
Title: _____	

PLEASE MAIL THIS FORM TO YOUR ASSIGNED INSPECTOR

ATTACHMENT B

**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 _____ Date Tested _____
mm/dd/yy mm/dd/yy

Chlorinated? _____ Dechlorinated? _____

Results	% effluent		Effluent Limitations	
	water flea	trout	A-NOEL	C-NOEL
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 C

Salmonid Survival and Growth Test

The Salmonid survival and growth test must follow the procedures for the fathead minnow larval survival and growth tests detailed in USEPA's freshwater acute and chronic methods manuals with the following Department modifications:

Species - Brook Trout, *Salvelinus fontinalis*, or other salmonid approved by the Department.

Age - Less than six months old for the first test each year and less than twelve months for subsequent tests.

Size - The largest fish must not be greater than 150% of the smallest.

Loading Rate - < 0.5 g/l/day

Feeding rate - 5% of body weight 3 times daily (15%/day)

Temperature - $12^{\circ} \pm 1^{\circ}\text{C}$

Dissolved Oxygen - 6.5 mg/l ,aeration if needed with large bubbles (> 1 mm diameter) at a rate of <100/min

Dilution Water - Receiving water upstream of discharge (or other ambient water approved by the Department)

Dilution Series - A minimum of 5 effluent concentrations (including the instream waste concentrations bracketing acute and chronic dilutions calculated pursuant to Section D); a receiving water control; and control of known suitable water quality

Duration - Acute = 48 hours
- Chronic = 10 days minimum

Test acceptability - Acute = minimum of 90% survival in 2 days
- Chronic = minimum of 80% survival in 10 days; minimum growth of 20 mg/gm/d dry weight in controls, (individual fish weighed, dried at 100°C to constant weight and weighed to 3 significant figures)

ATTACHMENT D

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)
 Acute dilution factor
 Chronic dilution factor
 Human health dilution factor
 Criteria type: M(arine) or F(resh)

Flow for Day (MGD)⁽¹⁾ Flow Avg. for Month (MGD)⁽²⁾
 Date Sample Collected Date Sample Analyzed

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

Last Revision - April 24, 2014

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.

WHOLE EFFLUENT TOXICITY	Reporting Limit	Effluent Limits, %			Receiving Water or Ambient	Effluent Concentration (ug/L or as noted)	WET Result, % Do not enter % sign	Reporting Limit Check	Possible Exceedence ⁽⁷⁾		
		Acute	Chronic	Health					Acute	Chronic	Health
Trout - Acute											
Trout - Chronic											
Water Flea - Acute											
Water Flea - Chronic											
WET CHEMISTRY											
pH (S.U.) ⁽⁹⁾											
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						Reporting Limit Check	Possible Exceedence ⁽⁷⁾		
		Acute ⁽⁶⁾	Chronic ⁽⁶⁾	Health ⁽⁶⁾					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, TOTAL	5				(8)						
CYANIDE, AVAILABLE ^(3a)	5				(8)						
M LEAD	3				(8)						
M NICKEL	5				(8)						
M SILVER	1				(8)						
M ZINC	5				(8)						

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.

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	5						
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	20						
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	5						
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	5						
BN	BENZO(G,H,I)PERYLENE	5						
BN	BENZO(K)FLUORANTHENE	5						
BN	BIS(2-CHLOROETHOXY)METHANE	5						
BN	BIS(2-CHLOROETHYL)ETHER	6						
BN	BIS(2-CHLOROISOPROPYL)ETHER	6						
BN	BIS(2-ETHYLHEXYL)PHTHALATE	10						
BN	BUTYLBENZYL PHTHALATE	5						
BN	CHRYSENE	5						
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						

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.
- (3a) Cyanide, Available (Cyanide Amenable to Chlorination) is not an analytical chemistry parameter, but may be required by certain discharge permits .
- (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.

Printed 5/5/2014

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.

Comments:

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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 of 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 MAINTENANCE 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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

- 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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

- (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.

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STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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.

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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

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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).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

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- (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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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 contaminants 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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

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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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

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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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

DATE: **June 8, 2015**
PERMIT NUMBER: **ME0102849**
WASTE DISCHARGE LICENSE: **W006654-6D-K-R**

NAME AND ADDRESS OF APPLICANT:

**LIMESTONE WATER & SEWER DISTRICT
6 Water Company Road
P.O. Box 544
Limestone, Maine 04750**

COUNTY: **AROOSTOOK**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

**GREATER LIMESTONE REGIONAL WASTEWATER TREATMENT FACILITY
363 Grimes Road
Caribou, Maine**

RECEIVING WATER CLASSIFICATION : **Aroostook River/Class C**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

**Mr. James Leighton, Superintendent
(207) 325-4788
e-mail: lwsd@maine.rr.com**

1. APPLICATION SUMMARY

- a. Application: On October 16, 2013, the Limestone Water & Sewer District (LWSD/permittee hereinafter) submitted a timely and complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102849/ Maine Waste Discharge License (WDL) #W006654-5L-F-R, (permit hereinafter) which was issued by the Department on March 11, 2009, for a five-year term. The 3/11/09 MEPDES permit authorized permittee to discharge a monthly average discharge of 1.25 million gallons per day (MGD) of secondary treated sanitary wastewater to the Aroostook River, Class C, in Caribou, Maine.

1. APPLICATION SUMMARY (cont'd)

It is noted the Department made five permit revisions since issuing the 3/11/09 permit. On 3/11/09 permit was modified on May 27, 2009, for the purpose of reducing the number of days required between sampling events from at least two days to at least one day for parameters that are monitored biweekly. On March 9, 2011, the permit was modified to establish and implement an Asset Management Program and a Repair and Replacement Account to comply with the 2010 Clean Water State Revolving Fund requirements. On December 20, 2011, the permit was modified to establish the Aroostook River, Class C, as the new receiving water body for the discharge, which required a modification to the dilution factor and consequent changes to the discharge limits of the following parameters; total residual chlorine, *E. coli* bacteria, whole effluent toxicity thresholds, and eliminating the requirement to test for total phosphorous. On January 10, 2013, the permit was modified to reflect the findings of an up-to-date statistical evaluation of the Aroostook River. It established water quality based limitations for the following toxic pollutants that exceed or had a reasonable potential to exceed applicable ambient water quality criteria; total arsenic, total aluminum, inorganic arsenic, bis(2-ethylhexyl)phthalate, total copper and total zinc and incorporated the average and maximum concentration limits for total mercury. On July 22, 2013, the permit was modified to remove the monthly average limitations, monitoring requirements, reporting requirements and schedule of compliance for inorganic arsenic and total arsenic from the permit subsequent to the revision of the arsenic criteria water quality standards and the results of a statistical evaluation on arsenic data conducted on July 19, 2013.

- b. Source Description: The Greater Limestone Regional Wastewater Treatment Facility accepts wastewater flows formerly accepted by both the LDA and the LWSD.

Limestone Development Authority (LDA) - The LDA is a quasi-municipal entity that was created by the Maine State Legislature in September 1993 to oversee the redevelopment of the former Loring Air Force Base (8,700 acres). The Loring Commerce Center (LCC), which is located on the former LAFB site, contains approximately 3 million square feet of existing building space of varying condition. A wide variety of uses of the buildings can be accommodated, including hangers, warehouses, office space, educational facilities and multi-family housing. Additionally, the former property contains extensive undeveloped areas, two 12,000 foot runways, and over 400 acres of paved taxiway and apron surfaces. The following major entities currently occupy the facility: a U.S. Defense Finance and Accounting Service Center, a U.S. Job Training Center, a Maine National Guard Vehicle Refurbishing facility, a Sitel Calling Center, a motel, residential developments and various other office and commercial facilities. At this time, most of the wastewater generated from the above activities/uses is comprised of sanitary wastewater with a minor contribution of industrial wastewaters.

The LDA's sewer collection system is approximately 34 miles in length, has no pump stations and is 100% separated with no combined sewer overflow (CSO) points. The collection system has experienced significant inflow and infiltration (I&I) in recent years. Estimates by the permittee indicate the I&I may have accounted for approximately 80% of the flows received at the wastewater treatment facility.

1. APPLICATION SUMMARY (cont'd)

Limestone Water and Sewer District (LWSD) – The existing LWSD wastewater treatment facility receives sanitary wastewater flows from approximately 1,000 residential and commercial users. The LWSD has no significant industrial users contributing wastewaters to the system, no combined sewer overflow (CSO) points, and does not accept septage from local septage haulers. The LWSD collection system is a separated system of approximately six miles in length with no pump stations.

A map showing the location of the treatment facility is included as Fact Sheet **Attachment A**.

- c. Wastewater Treatment: The Greater Limestone Regional Wastewater Treatment Facility is capable of providing secondary level of treatment up to 1.25 MGD as a monthly average, 5.35 MGD as a daily maximum, and 7.5 MGD as a peak hourly flow. Influent flows are conveyed into the headworks of the wastewater treatment facility by way of a gravity collection system. Preliminary treatment is achieved via a bar rack and two grit chambers and primary treatment is achieved via four underground primary settling tanks that are operated in parallel. Grit is processed through a cyclone de-gritter and transported offsite for disposal. Secondary treatment is achieved by conveying supernatant from the primary settling tanks to two banks of rotating biological contactors (RBCs), each bank with three-RBC units. The two banks are normally run in parallel but during low flow conditions only one bank of RBCs is operated with the other taken out of service. Following the RBC unit the wastewater is treated with fine bubble aeration in two parallel polishing tanks. Wastewaters exiting the polishing tanks are conveyed to two secondary clarifiers, each measuring 70-feet in diameter and 10-feet deep. The secondary treated wastewater is seasonally disinfected with sodium hypochlorite, conveyed to a chlorine contact tank, dechlorinated with sodium bi-sulfite and discharge to the Aroostook River in Caribou. See **Attachment B** of this Fact Sheet for a schematic of the treatment facility.

Sludge is sent to two sludge holding tanks and decanted to thicken. Sludge is then treated with polymer and pumped to drying beds. Dried sludge is taken offsite for proper disposal, at the Tri-Community Landfill.

2. PERMIT SUMMARY

- a. Terms and Conditions: This permitting action is carrying forward all the terms and conditions of the previous permitting actions except it is:
1. Revising the monitoring frequencies at Outfall #001A for biochemical oxygen demand (BOD₅), total suspended solids (TSS), settleable solids, *Escherichia coli*, and total residual chlorine (TRC) based on a statistical analysis in accordance with the methodology established in the U.S. Environmental Protection Agency's "Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies" (United States Environmental Protection Agency (USEPA) 1996); and supplemental guidance by the Department EPA entitled, *Performance Based Reduction of Monitoring Frequencies - Modification of EPA Guidance Released April 1996* (Maine DEP May 22, 2014).

2. PERMIT SUMMARY (cont'd)

2. Incorporating the interim mercury limits established by the Department for this facility pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Waste discharge licenses*, 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001);
3. Eliminating the waiver from the requirement to achieve 85 percent removal for BOD₅ and TSS; and
4. Establishing revised dilution factors associated with the discharge based on a review of 2011 gauge data for the Aroostook River evaluated by the Department.
5. Establishing monthly average and or daily maximum water quality based mass limitations for total aluminum and total copper.

b. History: The most current relevant regulatory actions include:

January 12, 2001 – The Department received authorization from the United States Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permitting program in Maine, excluding areas of special interest to Maine Indian Tribes. From January 12, 2001 forward, the program has been referred to as the MEPDES program. On March 26, 2011, the USEPA authorized the Department to administer the MEPDES program in Indian territories of the Penobscot Nation and Passamaquoddy Tribe.

March 11, 2009 - MEPDES Permit #ME0102849 / WDL #W006654-5L-F-R was issued pursuant to a December 19, 2008, legal agreement which results in the combination of MEPDES Permit #ME009174 / Maine WDL#W-006654-5L-E-R, issued on December 19, 2003, to the Loring Development Authority (LDA) for a monthly average flow of 2.5 MGD of secondary treated sanitary wastewater to the Little Madawaska River, Class B, in Caribou, Maine and MEPDES Permit #ME0101095/ WDL #W-002684-5L-G-R, issued on October 5, 2004, to the Limestone Water and Sewer District (LWSD) for a monthly average of 0.3 MGD of secondary treated sanitary wastewater to Limestone Stream, Class C, in Limestone, Maine. The combination of these two facilities' wastewater flows for treatment at the LDA facility, hereafter to be known as the Greater Limestone Regional Wastewater Treatment Facility, and discharge to the Aroostook River, Class C, in Caribou.

For a more detailed historical account of the previous permitting actions at this facility please refer to the Permit Summary of the previous MPDES Permit #ME0102849/ WDL #W006654-5L-F-R, issued on March 11, 2009.

2. PERMIT SUMMARY (cont'd)

May 27, 2009 - The Department issued a modification of MEPDES Permit #ME0102849 / WDL #W006654-5L-F-R for the purpose of reducing the number of days required between sampling events from at least two days to at least one day for parameters that are monitored biweekly.

March 9, 2011 – The Department issued a minor revision of MEPDES Permit #ME0102849 / WDL #W006654-5L-F-R to establish and implement an Asset Management Program and a repair and replacement account to comply with the 2010 Clean Water State Revolving Fund requirements.

December 20, 2011 – The Department issued a minor revision to MEPDES Permit #ME0102849 / WDL #W006654-5L-F-R to establish the Aroostook River, Class C, in Caribou as the new receiving water body for the discharge, which required a modification to the dilution factor and consequent changes to the discharge limits of the following parameters; total residual chlorine, *E. coli* bacteria, whole effluent toxicity thresholds, and eliminating the requirement to test for total phosphorous.

January 10, 2013 – The Department issued a minor revision to MEPDES Permit #ME0102849 / WDL #W006654-5L-F-R to reflect the findings of an up-to-date statistical evaluation of the Aroostook River. It established water quality based limitations for the following toxic pollutants that exceed or have a reasonable potential to exceed applicable ambient water quality criteria; total arsenic, total aluminum, inorganic arsenic, bis(2-ethylhexyl)phthalate, total copper and total zinc and incorporated the average and maximum concentration limits for total mercury.

September 17, 2013 – The Department issued a permit modification to remove the monthly average limitations, monitoring requirements, reporting requirements and schedule of compliance for inorganic arsenic and total arsenic from the permit subsequent to the revision of the arsenic criteria water quality standards and the results of a statistical evaluation on arsenic data conducted on July 19, 2013.

October 15, 2013 – The LWSD submitted a timely and complete general application to the Department for renewal of the March 11, 2009, MEPDES permit. The application was accepted for processing on October 16, 2013, and was assigned WDL #W006654-6D-K-R / MEPDES #ME0102849.

3. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A. § 420 and 06-096 CMR 530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (last amended July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Classification of major river basins, 38 M.R.S.A., § 467(15)(C)(1)(f) classifies the “Aroostook River, main stem, from a point located 100 yards downstream of the former intake of the Caribou water supply to the international boundary, including all impoundments,” which includes the river at the point of discharge, as Class C waters. *Standards for classification of fresh surface waters*, 38 M.R.S.A., § 465(3) describes the standards for Class C.

- A. *Class C waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and as a habitat for fish and other aquatic life.*
- B. *The dissolved oxygen content of Class C water may be not less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained. In order to provide additional protection for the growth of indigenous fish, the following standards apply.*

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

- (a) A license or water quality certificate other than a general permit was issued prior to March 16, 2004 for the Class C water and was not based on a 6.5 parts per million 30-day average dissolved oxygen criterion; or*
- (b) A discharge or a hydropower project was in existence on March 16, 2005 and required but did not have a license or water quality certificate other than a general permit for the Class C water. 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. The department may negotiate and enter into agreements with licensees and water quality certificate holders in order to provide further protection for the growth of indigenous fish. Agreements entered into under this paragraph are enforceable as department orders according to the provisions of sections 347-A to 349.

4. RECEIVING WATER QUALITY STANDARDS

Between May 15th and September 30th, the number of Escherichia coli bacteria of human and domestic animal origin in Class C waters may not exceed a geometric mean of 126 per 100 milliliters or an instantaneous level of 236 per 100 milliliters. In determining human and domestic animal origin, the department shall assess licensed and unlicensed sources using available diagnostic procedures. The board shall adopt rules governing the procedure for designation of spawning areas. Those rules must include provision for periodic review of designated spawning areas and consultation with affected persons prior to designation of a stretch of water as a spawning area.

C. *Discharges to Class C waters may cause some changes to aquatic life, except that the receiving waters must 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. This paragraph does not apply to aquatic pesticide or chemical discharges approved by the department and conducted by the department, the Department of Inland Fisheries and Wildlife or an agent of either agency for the purpose of restoring biological communities affected by an invasive species.*

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2012 Integrated Water Quality Monitoring and Assessment Report (Report), prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists the 16.6 mile reach of the Aroostook River main stem between 100 yards downstream of the former water supply intake structure for Caribou and international boundary, (ABD Assessment Unit ID ME0101000413_148R02) in the following categories:

The 305(b) report lists all of Maine's fresh waters as, "Category 4-A: Waters Impaired With Impaired Use, TMDL Completed, Waters Impaired by Atmospheric Deposition of Mercury. The report states the impairment is caused by atmospheric deposition of mercury; a regional scale TMDL has been approved. Maine has a fish consumption advisory for fish taken from all freshwaters due to mercury. Many waters and many fish from any given water, do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Health and Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption. Maine has already instituted statewide programs for removal and reduction of mercury sources.

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 average and maximum mercury concentration limits for this facility and the permittee has been in compliance with said limits. See the discussion in section 6(k) of this Fact Sheet.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Historic Water Quality Assessment/Modeling

The Aroostook River Basin is the largest sub-basin of the St. John River lying almost entirely within the State of Maine. The river segment of interest on the Aroostook begins in Ashland and flows to Washburn, Presque Isle, Caribou, Fort Fairfield and eventually the international border. In this segment of interest, there are seven point source discharges licensed to discharge organic waste loads to the Aroostook River: Ashland Water and Sewer District (AWS D), Town of Washburn, Presque Isle Utility District (PIUD), Caribou Utilities District (CUD), Limestone Water & Sewer District (LWSD), Fort Fairfield Utilities District (FFUD), and McCain Foods, USA, Inc. (McCain). Additionally, two dams significantly impound water in this river segment. The Caribou dam is located approximately 15 river miles upstream of the international border and impounds water 4.5 river miles upstream of the dam. The Tinker dam is located in Canada and impounds water 5 river miles upstream of the international border.

A study of the Aroostook River from Ashland to the United States-Canadian border (58 miles) began in the summer of 2001 involving the Department and a number of stakeholders, including McCain. Two data sets were collected in August of 2001 to calibrate and verify a water quality model, and in September 2004, the Department summarized the findings in a report entitled, Aroostook River Modeling Report, Final Sept 2004 ("Modeling Report").

The Department has not established numeric nutrient criteria at this time, specifically for phosphorous. The Department is in the process of developing nutrient criteria (as required by the USEPA), methodologies for quantitatively evaluating benthic-attached algae, and developing water classification specific (Class A, Class B, and Class C) chlorophyll-a standards for Maine waters. These criteria and standards are anticipated to be finalized in 2016-2017.

The Department's Division of Environmental Assessment (DEA) evaluated the 2001 Aroostook River data, calibrated and verified the Aroostook River water quality model and published the 2004 Modeling Report, certain assumptions were incorporated into the model to predict water quality conditions, such as utilizing a range of 8 to 12 ug/L for chlorophyll-a as the likely threshold level for algae blooms. Additionally, "there is currently no precedent on threshold levels of benthic algae where designated uses become inhibited, but it is likely that this could also be an issue on the Aroostook River after the nutrient criteria are developed...." (Modeling Report, p.51) In the Executive Summary of the Modeling Report (see #11 and #12), the Department concluded that "An additional data set should be taken at reduced point source phosphorous inputs" and "Total phosphorous license allocations for point sources should be re-evaluated by the model after collection of the additional data set recommended and nutrient criteria development are final." The Department stated in its response to comment #11 (see page 4 of the Modeling Report, *Response to Comments*), that "it [i]s important to make all stakeholders aware of the nutrient issue on the Aroostook River and give some idea for ballpark estimates of phosphorous allocations, given the current science and knowledge of this issue."

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The Department concluded in the Modeling Report that both 2001 data sets experienced chlorophyll-a levels exceeding the upper range of the 8 to 12 $\mu\text{g/L}$ threshold from above the Caribou dam to the international border, and that algae blooms were projected for 13 to 23 miles of the river from Maysville to the international border, with chlorophyll-a levels as high as 17 $\mu\text{g/L}$. The model predicted that both minimum dissolved oxygen criteria and monthly average dissolved oxygen criteria (6.5 parts per million) should be met everywhere on the Aroostook River. Additionally, the Modeling Report stated that "Although not quantitatively sampled, large levels of benthic algae were observed in the Aroostook River during the 2001 surveys. The benthic algae were evident from the confluence of the Presque Isle Stream to the head of the Caribou dam impoundment, but most abundant from below the Caribou dam to the head of the Tinker Dam impoundment in Fort Fairfield." The Modeling Report stated that dissolved oxygen data collected in 2001 was characterized by large diurnal fluctuations due to the significant growths of both bottom-attached (benthic) and floating algae (phytoplankton)." There is a trend of less fluctuation (generally around 1-2 ppm) above the major point source discharges as compared to average diurnal fluctuations below the major point source discharges (ranging from 5 to 9 ppm in shallower flowing sections and 1 to 4 ppm in impoundments).

Phosphorous is ordinarily the limiting nutrient in fresh water systems, which must be reduced in order to alleviate eutrophication. Component analysis was undertaken in the 2004 Modeling Report by comparing input loads of point and non-point sources of ultimate BOD and total phosphorous. The analysis demonstrated that at 7Q10 river conditions, McCain and PIUD were the major sources of phosphorous in the river, assuming that both were discharging at permitted flows with contributions of 43% and 17% of the total river phosphorous load, respectively. See Figure 16 of the Modeling Report. Assuming that all dischargers were discharging their permitted BOD₅ loads at 7Q10 flow, McCain, LWSD, CUD, and PISD are all significant inputs with contributions of 29%, 15%, 15%, and 14%, respectively, of the total ultimate BOD load. For both phosphorous and BOD, base flow non-point source and background sources are not significant, accounting collectively for 4% and 13% of the total river load for phosphorous and BOD, respectively. See Figure 17 of the Modeling Report.

Different levels of point source reductions were investigated to estimate the amount needed to alleviate eutrophication on the Aroostook River, given the model assumptions described above. See Table 10 of the Modeling Report. Large reductions of point source phosphorous were recommended to reduce algae to a non-eutrophic state. Model prediction runs undertaken with reduced phosphorous inputs from McCain and PIUD, which collectively have been identified as the two largest sources of phosphorous to the river, provide guidance as to the necessary reductions. The model runs suggested that a total phosphorous effluent mass limit for the McCain and PIUD facilities based upon permitted flow and a total phosphorous concentration of 0.5 ppm would result in a maximum chlorophyll-a concentration of 9 ppb, which approaches the lower end of the 8-12 ppb range at which algae blooms are expected in the river.

Due to uncertainties in final nutrient criteria and how these final criteria will affect the 2004 Modeling Report results, the May 17, 2007 permit carried forward the seasonal (June 1 – September 30) weekly average total phosphorous mass and concentration limits of 91 lbs./day and 6.6 mg/L for both Tier #1 and Tier #2 of the McCain permit with a minimum monitoring frequency requirement of three times per week.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Current Water Quality Assessment/Modeling

The Department conducted two separate studies of the Aroostook River in July-August, 2012 to update its evaluation of nutrient enrichment on the river and published the results in a report entitled, *Aroostook River Data Report, April 2013*. The biological monitoring results show that the river is enriched with nutrients, but is remarkably resilient and supported relatively healthy aquatic life communities (Table 1 of the report). All the biological monitoring samples for macroinvertebrates and algae attained class. The pH was greater than the pH criterion of 6.5-8.5 for four samples collected during the late morning or early afternoon, particularly downstream of Presque Isle. The percent cover of filamentous algae > 2 cm in length was not bad, but looked ready to bloom if water levels dropped further.

Sample results confirm the problems with pH (Figure 4). During a July 24-26 sampling trip, the Department measured early morning and afternoon DO and pH, along with other water quality parameters, for three consecutive days. Upstream of Presque Isle, the data show that the river had small diurnal swings with moderate peaks in DO (≤ 9.63 ppm) and pH (≤ 8.27). Sample locations further downstream from Presque Isle center indicate algae is likely removing phosphorus from the water by the time it reached the downstream sample locations. Downstream of Presque Isle and Caribou, nutrient enrichment increased production of algae and plants, which caused larger swings and higher peaks in DO (10.08-13.63 ppm) and pH (8.59-9.11). pH values exceeded the 8.5 criterion at seven locations on the Aroostook River downstream of Presque Isle and Caribou. The high pH values downstream are not natural based on the evidence that the upstream sample points did not have pH > 8.5 and the high pH downstream was caused by algae and aquatic plants. The alkalinity from the region's calcium-rich soils contributed to the high pH values and made the river more susceptible to pH exceedances.

The 2013 data report indicates on 7/30/12, there were a lot of nutrients being discharged into the river in the Presque Isle area. Upstream of Presque Isle, the total phosphorus concentration was 9 $\mu\text{g/L}$ compared to 93 and 80 $\mu\text{g/L}$ downstream of Presque Isle. The large ortho-phosphorus concentrations from the same date suggest that the source was a point source discharge. The total phosphorus concentrations were comparable upstream and downstream of Presque Isle on 8/27. The McCain potato processing plant was operating in July but was not discharging into the Aroostook River in late August when the second batch of samples were collected. During the July 24-26 sampling trip, all total phosphorus samples collected in the Aroostook River were < 33 $\mu\text{g/L}$. During the same trip, samples collected total phosphorus samples from three major tributaries ranging from 14 $\mu\text{g/L}$ to 32 $\mu\text{g/L}$. There is great potential for phosphorus enrichment from the agriculturally impacted tributaries during storm events. Major conclusions and recommendations from the report were as follows:

- Dissolved oxygen criterion was met throughout the river with diurnal swings over 5 mg/L.
- Chlorophyll *a* exceeded 8 $\mu\text{g/L}$ within the Caribou dam and Tinker dam impoundments.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

- Although pH was not measured during the 2001 field survey, readings were taken during a transect survey in 2002 and included in the report. Observed pH levels exceeded criterion of 8.5 on four of eight river sites. The report concluded that the elevated pH was due to the diurnal algal growth kinetics.
- High phosphorus concentrations measured during the field survey and elevated when modeled during critical water quality conditions are attributed to point source discharges.
- Collective point source phosphorus reductions of greater than 50% from current amounts are needed to eliminate algae blooms.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

- a. Flow: The previous permitting action replaced the monthly average effluent flow limit with a reporting requirement in recognition of the amount of I&I in the wastewater collection system for the LDA which is outside of the control of the LWSD. Based upon best professional judgment (BPJ) the Department is carrying forward the monthly effluent flow reporting requirement in recognition that I&I reduction will be achieved through the elimination of the waiver from the requirement to achieve 85 percent removal for BOD₅ and TSS. This action shall in no way be interpreted or construed to mean that the average design capacity for the treatment plant is greater than or less than the 1.25 MGD design criterion. Mass limitations established in this permitting action shall be calculated based on the average dry weather design criterion of 1.25 MGD. This permitting action also carries forward the daily maximum flow reporting requirement, common to other facility permits and based upon Department BPJ.

The Department reviewed 48 Discharge Monitoring Reports (DMRs) that were submitted for the period January 2011 – December 2014. A review of data indicates the following:

Flow

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	Report	0.373 – 2.384	1.0
Daily Maximum	Report	0.444 – 4.288	2.0

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

- b. Dilution Factors: Dilution factors associated with the monthly average dry weather design criterion for the facility of 1.25 MGD were derived in accordance with 06-096 CMR, 530 (4)(A) Surface Water Toxics Control Program and were calculated as follows:

$$\text{Acute: } 1Q10 = 134 \text{ cfs}^{(1)} \quad \Rightarrow \frac{(134 \text{ cfs})(0.6464) + 1.25 \text{ MGD}}{1.25 \text{ MGD}} = 70:1$$

$$\text{Chronic: } 7Q10 = 159 \text{ cfs}^{(1)} \quad \Rightarrow \frac{(159 \text{ cfs})(0.6464) + 1.25 \text{ MGD}}{1.25 \text{ MGD}} = 83:1$$

$$\text{Harmonic Mean} = 1,046 \text{ cfs}^{(1)} \quad \Rightarrow \frac{(1,046 \text{ cfs})(0.6464) + 1.25 \text{ MGD}}{1.25 \text{ MGD}} = 541:1$$

The Department has determined that the outfall structure associated with the LWSD's discharge provides complete and rapid mixing of the effluent with the receiving waters.

Footnote:

(1) Flows were determined by a review of 2011 gauge data evaluate by the Department.

- c. Biochemical Oxygen Demand (BOD₅) & Total Suspended Solids (TSS): The previous permitting action established, and this permitting action is carrying forward, monthly and weekly average technology-based concentration limits of 30 mg/L and 45 mg/L, respectively, for BOD₅ and TSS based on the secondary treatment requirements specified at Effluent Guidelines and Standards, 06-096 CMR 525(3)(III) (effective January 12, 2001), and a daily maximum concentration limit of 50 mg/L, which is based on a Department best professional judgment (BPJ) of best practicable treatment (BPT) for secondary treated wastewater.

The technology-based monthly, weekly, and daily average mass limits of 313 lbs./day, 469 lbs./day and 521 lbs./day, respectively, established in the previous permitting action for BOD₅ and TSS are based on the monthly average flow design criterion of 1.25 MGD and the applicable concentration limits, and are also being carried forward in this permitting action. The calculations are as follows:

$$\text{Monthly average mass limit: } (30 \text{ mg/L})(8.34 \text{ lbs./gallon})(1.25 \text{ MGD}) = 313 \text{ lbs./day}$$

$$\text{Weekly average mass limit: } (45 \text{ mg/L})(8.34 \text{ lbs./day})(1.25 \text{ MGD}) = 469 \text{ lbs./day}$$

$$\text{Daily maximum mass limit: } (50 \text{ mg/L})(8.34 \text{ lbs./day})(1.25 \text{ MGD}) = 521 \text{ lbs./day}$$

This permitting action is carrying forward a requirement for a minimum of 85% removal of BOD₅ & TSS pursuant to 06-096 CMR 525(3)(III)(a&b)(3). The permittee has not demonstrated that it qualifies for special considerations pursuant to 06-096 CMR 525(3)(IV). Therefore, this permitting action is eliminating the waiver from the 85 percent removal requirement provided in the previous permitting action when influent concentration is less than 200 mg/L.

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

The Department reviewed 48 DMRs that were submitted for the period January 2011 – December 2014. A review of the data indicates the following:

BOD₅ Mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	313	19 – 131	63
Daily Maximum	521	25 – 343	135

BOD₅ Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	4.1 – 19	7
Daily Maximum	50	5.2 – 28	13

TSS mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	313	7.7 – 155	48
Daily Maximum	521	12 – 488	111

TSS concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	1.6 – 12	5
Daily Maximum	50	2.4 - 33	9

The previous permitting action established a minimum monitoring frequency requirement of three times per week (3/Week) for BOD₅ and TSS, based on Department guidance for POTWs permitted to discharge between 1.0 MGD and 5.0 MGD.

Minimum monitoring frequency requirements in MEPDES permits are prescribed by 06-096 CMR Chapter 523§5(i). The USEPA has published guidance entitled, *Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies* (USEPA Guidance April 1996). In addition, the Department has supplemented the EPA guidance with its own guidance entitled, *Performance Based Reduction of Monitoring Frequencies - Modification of EPA Guidance Released April 1996* (Maine DEP May 22, 2014). Both documents are being utilized to evaluate the compliance history for each parameter regulated by the previous permit to determine if a reduction in the monitoring frequencies are justified.

Although EPA’s 1996 Guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering 48 months of data (January 2011 – December 2014). A review of the monitoring data for BOD & TSS indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as 21% and 15% respectively. According to Table I of the EPA Guidance, a 3/Week monitoring requirement can be reduced to 1/Week. Therefore, this permitting action is reducing the monitoring frequency for BOD and TSS to 1/Week.

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

- d. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a technology-based daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for secondary treated wastewater.

The Department reviewed 48 DMRs that were submitted for the period January 2011 – December 2014. A review of data indicates the following:

Settleable solids concentration

Value	Limit (ml/L)	Range (ml/L)	Average (ml/L)
Daily Maximum	0.3	0.01 - 0.10	0.1

Although EPA’s 1996 Guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering 48 months of data (January 2011 – December 2014). A review of the monitoring data for settleable solids indicates the ratios (expressed in percent) of the long term effluent average to the daily maximum limit can be calculated as 33%. According to Table I of the EPA and Department Guidance, a 2/Week monitoring requirement can be reduced to 1/Week. Therefore, this permitting action is reducing the monitoring frequency for settleable solids to 1/Week.

- e. Escherichia coli Bacteria: The December 15, 2011, permit modification established, and this permitting action is carrying forward, seasonal (May 15-September 30 of each year) monthly average and daily maximum *E. coli* bacteria concentration limits of 126 colonies/100 ml and 949 colonies/100 ml, respectively. The monthly average concentration limit is based on 38 M.R.S.A. § 465(4) which requires that the *E. coli* bacteria of human and domestic animal origin in Class C waters may not exceed a geometric mean of 126 colonies/100 ml or an instantaneous level of 236 colonies/100 ml. The Department has determined that end-of-pipe limitations for the instantaneous concentration standard of 236 colonies/100 ml will be achieved through available dilution of the effluent with the receiving waters and need not be revised in MEPDES permits for facilities with adequate dilution, such as that for LWSD.

Although *E. coli* bacteria limits are seasonal and apply between May 15 and September 30 of each year, the Department reserves the right to impose year-round bacteria limits if deemed necessary to protect the health, safety and welfare of the public.

The Department reviewed 20 DMRs that were submitted for the period May 2011 – September 2014. A review of data indicates the following:

***E. coli* Bacteria**

Value	Limit (col/100 ml)	Range (col/100 ml)	Mean (col/100 ml)
Monthly Average	126	2 – 33	6
Daily Maximum	949	5 –236	56

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

Although EPA’s 1996 Guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering 20 months of data (January 2011 – December 2014). A review of the monitoring data for *E. coli* bacteria indicates the ratios (expressed in percent) of the long term effluent average to the daily maximum limit can be calculated as 5%. According to Table I of the EPA and Department Guidance, a 2/Week monitoring requirement can be reduced to 1/Week. Therefore, this permitting action is reducing the monitoring frequency for *E. coli* bacteria to 1/Week.

- f. Total Residual Chlorine: The December 15, 2011, permit modification established, and this permitting action is carrying forward a daily maximum water quality-based concentration limit of 1.0 mg/L. Limitations on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Department licensing/permitting actions impose the more stringent of either a water quality-based or BPT based limit. Revised end-of-pipe acute and chronic water quality based concentration thresholds may be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dilution Factors	Calculated	
			Acute Threshold	Chronic Threshold
0.019 mg/L	0.011 mg/L	70:1 (A) 83:1 (C)	1.33 mg/L	0.9 mg/L

The Department has established a daily maximum BPT limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds. The daily maximum technology-based standard of 1.0 mg/L is more stringent than the calculated acute water quality-based threshold of 1.33 mg/L and is therefore being established in this permitting action.

The Department reviewed DMRs that were submitted for the period May 2011 – September 2014. A review of data indicates the following:

Total residual chlorine

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	1.0	0.04 – 0.93	0.56

Although EPA’s 1996 Guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering 20 months of data (May 2011 – September 2014). A review of the monitoring data for total residual chlorine indicates the ratios (expressed in percent) of the long term effluent average to the daily maximum limit can be calculated as 56%. According to Table I of the EPA and Department Guidance, a 5/Week monitoring requirement can be reduced to 3/Week. Therefore, this permitting action is reducing the monitoring frequency for total residual chlorine to 3/Week.

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

- g. **pH:** The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units (SU), which is based on 06-096 CMR 525(3)(III).

The Department reviewed 48 DMRs that were submitted for the period January 2011 – December 2014. A review of data indicates the following:

pH

Value	Limit (SU)	Minimum (SU)	Maximum (SU)
Range	6.0 – 9.0	7.2	8.0

In consideration of the compliance history with pH, this permitting action is carrying forward the minimum monitoring frequency requirement of once per day.

- h. **Mercury:** The January 10, 2013, permit modification incorporated, and this permitting action is carrying forward, an interim monthly average and daily maximum effluent concentration limits of 4.6 parts per trillion (ppt) and 6.9 ppt, respectively, and a minimum monitoring frequency requirement of one (1) test per year for mercury into the permit. A review of the Department’s data base for the period March 2009 through the present indicates the permittee has been in compliance with the interim limits for mercury as results have been reported as follows;

Mercury

Value	Limit (ng/L)	Range (ng/L)	Mean (ng/L)
Average	4.6	1.5 – 6.5	2.7
Daily Maximum	6.9		

This permitting action is carrying forward the previously established 1/Year monitoring frequency.

- i. **Total Phosphorus:** *Waste Discharge License Conditions*, 06-096 CMR 523 specifies that water quality based limits are necessary when it has been determined that a discharge has a reasonable potential to cause or contribute to an excursion above any State water quality standard including State narrative criteria.¹ In addition, 06-096 CMR 523 specifies that water quality based limits may be based upon criterion derived from a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents.²

¹ *Waste Discharge License Conditions*, 06-096 CMR 523(5)(d)(1)(i) (effective date January 12, 2001)

² 06-096 CMR 523(5)(d)(1)(vi)(A)

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

USEPA's Quality Criteria for Water 1986 (Gold Book) puts forth an in-stream phosphorus concentration recommendation of less than 0.1 mg/L in streams or other flowing waters not discharging directly to lakes or impoundments, to prevent nuisance algal growth. The use of the 0.1 mg/L Gold Book goal is consistent with the requirements of 06-096 CMR 523 noted above for use in a reasonable potential (RP) calculation.

Based on the above rationale, the Department has chosen to utilize the Gold Book goal of 0.10 mg/L. It is the Department's intent to continue to make determinations of actual attainment or impairment based upon environmental response indicators from specific water bodies. The use of the Gold Book goal of 0.10 mg/L for use in the RP calculation will enable the Department to establish water quality based limits in a manner that is reasonable and that appropriately establishes the potential for impairment, while providing an opportunity to acquire environmental response indicator data, numeric nutrient indicator data, and facility data as needed to refine the establishment of site-specific water quality-based limits for phosphorus. Therefore, this permit may be reopened during the term of the permit to modify any reasonable potential calculation, phosphorus limits, or monitoring requirements based on site-specific data.

The permittee conducted total phosphorus testing on its effluent during the summer of 2014 (n=10). A summary of the results is as follows:

Total phosphorus (effluent)

Range (mg/L)	Mean (mg/L)
0.6 – 1.2	0.80

Given phosphorus discharged to a receiving water may take ten days to two weeks or longer to (depending on flow and temperature conditions) to exhibit adverse impacts to receiving water, the Department is utilizing the mean discharge concentration in determining whether the discharge has a reasonable potential to exceed the AWQ of 0.1 mg/L.

For the background concentration in the Aroostook River, the Department collected three test results during summer of 2014 and a summary of those results are as follows:

Total phosphorus (background)

Range (mg/L)	Mean (mg/L)
0.016 – 0.022	0.022

To be conservative, the Department is utilizing the maximum background concentration of 0.022 mg/L in determining whether the discharge has a reasonable potential to exceed the AWQ of 0.1 mg/L.

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

Using the following calculation, the discharge from the LWSD does not exhibit a reasonable potential to exceed the EPA’s Gold Book AWQ goal of 0.1 mg/L for phosphorus or the Department’s 06-096 CMR 583 draft criteria of 33 ug/L.

$$Cr = \frac{QeCe + QsCs}{Qr}$$

Qe = effluent flow i.e. facility design flow	=	1.25 MGD
Ce = effluent pollutant concentration	=	0.8 mg/L
Qs = 7Q10 flow of receiving water	=	103 MGD
Cs = upstream concentration	=	0.022 mg/L
Qr = receiving water flow	=	104.25 MGD
Cr = receiving water concentration		

$$Cr = \frac{(1.25 \text{ MGD} \times 0.8 \text{ mg/L}) + (103 \text{ MGD} \times 0.022 \text{ mg/L})}{104.25 \text{ MGD}} = 0.031 \text{ mg/L}$$

Cr = 0.031 mg/L < 0.1 mg/L ⇒ No Reasonable Potential

Cr = 0.031 mg/L < 0.033 mg/L ⇒ No Reasonable Potential

Therefore, no end-of-pipe limitations for total phosphorus are being established in this permitting action.

j. Whole Effluent Toxicity (WET), Priority Pollutant, and Analytical Chemistry Testing

Maine law, 38 M.R.S.A. § 414-A and 38 M.R.S.A. § 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 rule 06-096 CMR Chapter 530 sets forth effluent monitoring requirements and procedures to establish safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected and narrative and numeric water quality criteria are met. *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

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.

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

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

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

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

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

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

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

=
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(1)(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).”

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

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 March 31, 2015, 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 or chronic critical ambient water quality criteria (AWQC) thresholds (1.4% and 1.2% – mathematical inverse of the acute dilution factor 70:1 and the chronic dilution factor 83:1).

Given the absence of exceedences or reasonable potential to exceed critical WET thresholds, the permittee meets the surveillance level monitoring frequency reduction criteria found at Department rule Chapter 530(1)(D)(3)(c). Therefore, this permit is establishing surveillance level WET testing at a frequency of once every other year (1/2 Years) for the first three years of the permit. Beginning 24 months prior to the expiration date and lasting through 12 months prior to the expiration date of the permit and every five years thereafter, the permittee shall conduct screening level WET testing on the water flea and the brook trout.

In accordance with Department rule Chapter 530(2)(D)(4) and Special Condition I, 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.

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

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 Aroostook River in the vicinity of the permittee’s outfall. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

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.*”

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

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

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

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.

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

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.

For this permitting action a couple of the variables in the statistical evaluation have changed based on new information. The 7Q10 of the Aroostook River at the LWSD facility has been reduced from 174 cfs to 159 cfs based on a 2011 statistical evaluation of gauge data for the Aroostook River. In addition, withholding of 15% of the AWQC for reserve capacity has been reduced to withholding 0%. On January 21, 2015, the Department conducted statistical evaluations based on 15% of the ambient water quality criteria reserve being withheld (Report ID 779) and 0% of the reserve of the criteria being withheld (Report ID 771) to determine if the unallocated assimilative capacity would avoid an exceedance or avoid a reasonable potential to exceed applicable ambient water quality criteria for toxic pollutants. Report ID 771 indicates McCain's would no longer had a reasonable potential to exceed the chronic ambient water quality criteria for copper. Therefore, the Department is utilizing the full 15% of the unallocated assimilative capacity in the statistical evaluation when establishing limits for toxic pollutants in waste discharge licenses for facilities in the Aroostook River watershed.

In a letter dated September 21, 2000, to the Department, the PIUD submitted eight and a half years (1990-1999) of quarterly test results (by season) of the background hardness of Presque Isle Stream in an effort have the Department consider a site specific hardness for hardness dependent metals. The arithmetic mean of the seasonal data points are as follows: Winter (62 mg/L), Spring (34 mg/L), Summer (66 mg/L) and Fall (40 mg/L). The Department took the data submitted by the PISD into consideration and made the determination that for hardness dependent metals, the applicable acute hardness for Presque Isle Stream at the point of discharge is 33 mg/L and the chronic hardness is 40 mg/L, and applicable limits for hardness dependent metals were established in PISD's September 30, 2002, MEPDES permit.

The Department has made a rebuttable presumption that the hardness data for the Aroostook River is similar to the background hardness in Presque Isle Stream and is therefore being utilized for establishing limits for hardness dependent metals for dischargers in the Aroostook River watershed. Because only one hardness value can be entered into the Department DETOX program for statistically evaluating chemical specific test results and establishing limitations for pollutant that have a reasonable potential or exceed AWQC, the Department is utilizing a watershed hardness value of 37 mg/L. The value is the arithmetic mean of the acute and chronic hardness values established for PISD's September 30, 2002, MEPDES permit.

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

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 1/21/15 statistical evaluation (Report ID #771), the pollutant of concern for the PISD is aluminum and shall be limited based on the segment allocation method.

Segment allocation methodology

Historical Average:

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

Aluminum

Mass limits

Mean concentration (n=5) = 76 ug/L or 0.076 mg/L

Permit flow limit = 1.25 MGD

Historical average mass = (0.076 mg/L)(8.34)(1.25 MGD) = 0.79 lbs/day

The 1/21/15 statistical evaluation indicates the historical average mass of aluminum discharged by the permittee's facility is 2.75% of the aluminum discharged by the facilities on the Aroostook River and its tributaries. However, the McCain facility (upstream) is limited by the individual allocation for the chronic (monthly average) limit resulting in a surplus of 3.63 lbs of aluminum to be allocated to downstream dischargers where aluminum is being limited as a monthly average value in a permit. In this case, there are two downstream dischargers (LWSD and Caribou Utilities District) being limited for chronic aluminum. Therefore, the permittee's adjusted chronic segment allocation for aluminum is calculated as 4.06% of the chronic assimilative capacity of the river at Fort Fairfield, the most downstream facility on the Aroostook River. The Department has calculated a chronic assimilative capacity 76.8 lbs/day of aluminum at Fort Fairfield. The chronic assimilative capacity (AC) at Fort Fairfield was calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve) and the critical low flow (7Q10 = 182 cfs). The calculation for aluminum is as follows:

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

Chronic:

7Q10 @ Fort Fairfield = 182 cfs or 117.6 MGD
AWQC = 87 ug/L (not hardness dependent)
87 ug/L(0.90) = 78.3 ug/L or 0.0783 mg/L

$$\text{Chronic AC} = (117.6 \text{ MGD})(8.34 \text{ lbs/gal})(0.0783 \text{ mg/L}) = 76.8 \text{ lbs/day}$$

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

$$\text{Monthly average: (Acute assimilative capacity mass)(\% of total aluminum discharged)} \\ (76.8 \text{ lbs/day})(0.0406) = \mathbf{3.1 \text{ lbs/day}}$$

Bis(2-ethylhexyl)phthalate

Mass limits

Mean concentration (n=16) = 13.1 ug/L or 0.0131 mg/L
Design flow = 1.25 MGD
Historical average mass = (0.0131 mg/L)(8.34)(1.25 MGD) = 0.137 lbs/day

The 1/21/15 statistical evaluation indicates the historical average mass of bis(2-ethylhexyl)phthalate discharged by the permittee's facility is 85.32% of the bis(2-ethylhexyl)phthalate discharged by the facilities on the Aroostook River and its tributaries. Therefore, the permittee's segment allocation for bis(2-ethylhexyl)phthalate is calculated as 85.32% of the harmonic mean assimilative capacity of the river at Fort Fairfield, the most downstream facility on the Aroostook River. The Department has calculated a human health (water & organisms) assimilative capacity 2.3 lbs/day of bis(2-ethylhexyl)phthalate at Fort Fairfield, the most downstream discharger on the Aroostook River. The human health assimilative capacity (AC) at Fort Fairfield was calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve, totaling 10%), critical low flow (harmonic mean = 1196 cfs). The calculations for bis(2-ethylhexyl)phthalate are as follows:

Chronic:

HM @ Fort Fairfield = 1196 cfs or 772.4 MGD
AWQC = 0.8 ug/L (not hardness dependent)
0.8 ug/L(0.90) = 0.72 ug/L or 0.00072 mg/L

$$\text{HM AC} = (772.4 \text{ MGD})(8.34 \text{ lbs/gal})(0.00072 \text{ mg/L}) = 4.63 \text{ lbs/day}$$

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

Monthly average (harmonic mean) mass limitation for bis(2-ethylhexyl)phthalate is calculated as follows:

Monthly average: (Harmonic mean assimilative capacity mass)(% of total bis discharged)
 $(4.63 \text{ lbs/day})(0.8532) = \mathbf{3.9 \text{ lbs/day}}$

Copper

Mass limits

Mean concentration (n=7) = 17.4 ug/L or 0.0174 mg/L

Design flow = 1.25 MGD

Historical average mass = $(0.0174 \text{ mg/L})(8.34)(1.25 \text{ MGD}) = 0.181 \text{ lbs/day}$

The 1/21/13 statistical evaluation indicates the historical average mass of copper discharged by the permittee's facility is 17% of the copper discharged by the facilities on the Aroostook River and its tributaries. The Department has calculated an acute assimilative capacity of 4.45 lbs/day and a chronic assimilative capacity of 2.01 lbs/day of copper at Fort Fairfield the most downstream discharger on the Aroostook River. The acute and chronic assimilative capacities (AC) at Fort Fairfield were calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve, totaling 10%), critical low flows (1Q10 = 153 cfs, 7Q10 = 182 cfs). The calculations for copper are as follows:

Acute:

1Q10 @ Fort Fairfield = 153 cfs or 99 MGD

AWQC = 5.49 ug/L (based on hardness of 37 mg/L)

$5.49 \text{ ug/L}(0.90) = 4.94 \text{ ug/L}$ or 0.00494 mg/L

Acute AC = $(99 \text{ MGD})(8.34 \text{ lbs/gal})(0.00494 \text{ mg/L}) = 4.08 \text{ lbs/day}$

Chronic:

7Q10 @ Fort Fairfield = 182 cfs or 118 MGD

AWQC = 3.99 ug/L (based on hardness of 37 mg/L)

$3.99 \text{ ug/L}(0.90) = 3.59 \text{ ug/L}$ or 0.00359 mg/L

Chronic AC = $(118 \text{ MGD})(8.34 \text{ lbs/gal})(0.00359 \text{ mg/L}) = 3.53 \text{ lbs/day}$

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)
 $(4.08 \text{ lbs/day})(0.17) = \mathbf{0.69 \text{ lbs/day}}$

Monthly average: (Chronic assimilative capacity mass)(% of total copper discharged)
 $(3.53 \text{ lbs/day})(0.17) = \mathbf{0.60 \text{ lbs/day}}$

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

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

As for the remaining 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 carrying forward the waived surveillance level reporting and monitoring frequency 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 I, *06-096 CMR 530(2)(D)(4) Statement For Reduced/Waived Toxics Testing* of this permit.

Beginning 24 months prior to the expiration date of the permit and lasting through 12 months prior to permit expiration (year 4 of the term of the permit), and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee shall conduct routine screening level analytical chemistry testing at 1/Quarter and priority pollutant testing of 1/Year.

8. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

The previous permitting action authorized the permittee to receive and introduce up to 10,000 gpd and of transported wastes into the wastewater treatment process or solids handling stream. Department rule Chapter 555, *Standards For The Addition of Transported Wastes to Wastewater Treatment Facilities*, limits the quantity of transported wastes received at a facility to 1% of the design capacity of the treatment facility if the facility utilizes a side stream or storage method of introduction into the influent flow, or 0.5% of the design capacity of the facility if the facility does not utilize the side stream or storage method of introduction into the influent flow. A facility may receive more than 1% of the design capacity on a case-by-case basis. The permittee has requested the Department carry forward the daily quantity of 10,000 gpd of transported wastes that it is authorized to receive and treat as it utilizes the side stream/storage method of metering transported wastes into the facility's influent flow. With a design capacity of 1.25 MGD, 10,000 gpd only represents 0.8% of said capacity.

The Department has determined that under normal operating conditions, the receipt and treatment of 10,000 gpd of transported wastes to the facility will not cause or contribute to upset conditions of the treatment process.

9. ANTI-BACKSLIDING

Federal regulation 40 CFR, §122(l) contains the criteria for what is often referred to as the anti-backsliding provisions of the Federal Water Pollution Control Act (Clean Water Act). In general, the regulation states that except for provisions specified in the regulation, effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards or conditions in the previous permit. Applicable exceptions include (1) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation and (2) information is available which was not available at the time of the permit issuance (other than revised regulations, guidance or test methods) and which would justify the application of less stringent effluent limitations at the time of permit issuance.

This permitting action is establishing a less stringent monthly average water quality based mass limit for bis(2-ethylhexyl)phthalate based on new information that was not available at the time of the previous permitting action. More specifically, the mass limit for bis(2-ethylhexyl)phthalate was based on the former discharge dilution factors associated with a discharge to the Little Madawaska River.

10. ANTI-DEGRADATION - IMPACT ON RECEIVING WATER QUALITY

Maine's anti-degradation policy is included in 38 M.R.S.A., Section 464(4)(F) and addressed in the *Conclusions* section of this permit. Pursuant to the policy, where a new or increased discharge is proposed, the Department shall determine whether the discharge will result in a significant lowering of existing water quality. Increased discharge means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology.

This permitting action revises previously established water quality based effluent limitations and monitoring requirements for bis(2-ethylhexyl)phthalate. As permitted, the Department has determined the existing and designated water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the Little Androscoggin River to meet standards for Class C classification.

11. PUBLIC COMMENTS

Public notice of this application was made in the *Aroostook Republican* newspaper on or about October 9, 2013. The Department receives public comments on an application until the date a final agency action is taken on the 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 *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

12. DEPARTMENT CONTACTS

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

Gregg Wood
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7693 Fax: (207) 287-3435
e-mail: gregg.wood@maine.gov

13. RESPONSE TO COMMENTS

Reserved until the end of the public comment period.

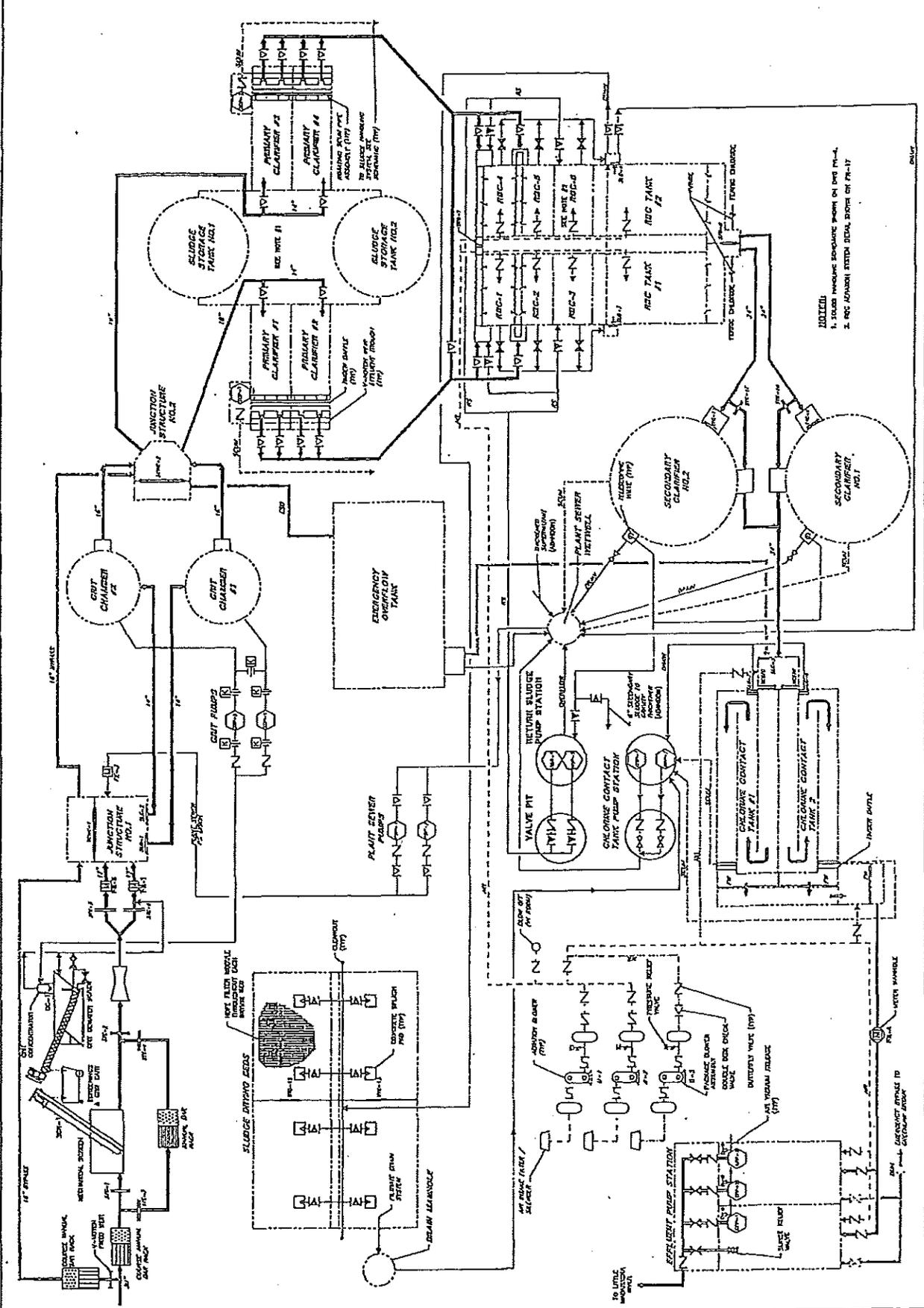
ATTACHMENT A

NO.	DATE	DESCRIPTION
1	10/1/00	ISSUED FOR PERMITS
2	10/1/00	ISSUED FOR PERMITS
3	10/1/00	ISSUED FOR PERMITS
4	10/1/00	ISSUED FOR PERMITS
5	10/1/00	ISSUED FOR PERMITS
6	10/1/00	ISSUED FOR PERMITS
7	10/1/00	ISSUED FOR PERMITS
8	10/1/00	ISSUED FOR PERMITS
9	10/1/00	ISSUED FOR PERMITS
10	10/1/00	ISSUED FOR PERMITS
11	10/1/00	ISSUED FOR PERMITS
12	10/1/00	ISSUED FOR PERMITS
13	10/1/00	ISSUED FOR PERMITS
14	10/1/00	ISSUED FOR PERMITS
15	10/1/00	ISSUED FOR PERMITS
16	10/1/00	ISSUED FOR PERMITS
17	10/1/00	ISSUED FOR PERMITS
18	10/1/00	ISSUED FOR PERMITS
19	10/1/00	ISSUED FOR PERMITS
20	10/1/00	ISSUED FOR PERMITS

WRIGHT-PIERCE
 Engineering a Better Environment
 Office: 11000 N. 19th St., Suite 100, Phoenix, AZ 85021
 Phone: (602) 998-1100
 Fax: (602) 998-1101
 Website: www.wright-pierce.com

LIVESTONE WATER & SEWER DISTRICT
 CONTRACT 3 - GREATER LIVESTONE REGIONAL
 WASTEWATER TREATMENT FACILITY UPGRADE
 PROCESS FLOW DIAGRAM

DRAWING
 PR-2



ATTACHMENT B

ATTACHMENT C

4/7/2015

WET TEST REPORT

Data for tests conducted for the period

07/Apr/2010 -07/Apr/2015



GREATER LIMESTONE WTF

NPDES= ME010284

Effluent Limit: Acute (%) = 1.294

Chronic (%) = 1.102

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	100	03/01/2011	1.294		
TROUT	A_NOEL	100	07/24/2012	1.294		
TROUT	A_NOEL	100	05/01/2013	1.294		
TROUT	A_NOEL	100	10/16/2013	1.294		
TROUT	C_NOEL	100	03/01/2011	1.102		
TROUT	C_NOEL	100	07/24/2012	1.102		
TROUT	C_NOEL	100	05/01/2013	1.102		
TROUT	C_NOEL	100	10/16/2013	1.102		
WATER FLEA	A_NOEL	100	03/01/2011	1.294		
WATER FLEA	A_NOEL	100	07/24/2012	1.294		
WATER FLEA	A_NOEL	100	05/01/2013	1.294		
WATER FLEA	A_NOEL	100	10/16/2013	1.294		
WATER FLEA	C_NOEL	100	03/01/2011	1.102		
WATER FLEA	C_NOEL	100	07/24/2012	1.102		
WATER FLEA	C_NOEL	100	05/01/2013	1.102		
WATER FLEA	C_NOEL	100	10/16/2013	1.102		

ATTACHMENT D

4/7/2015

FACILITY PRIORITY POLLUTANT DATA REPORT

Data Date Range: 07/Apr/2010-07/Apr/2015

Facility name: **GREATER LIMESTONE WTF**Permit Number: **ME0102849****Parameter: ALUMINUM**

Test date	Result (ug/l)	Lsthan
07/24/2012	258.000	N
02/05/2013	60.000	Y
05/01/2013	60.000	Y
07/15/2013	60.000	Y
11/25/2013	60.000	Y

Parameter: BIS(2-ETHYLHEXYL)PHTH.

Test date	Result (ug/l)	Lsthan
06/08/2010	2.000	Y
09/06/2010	2.000	Y
02/14/2011	3.000	Y
04/25/2011	3.000	Y
08/15/2011	5.000	N
11/29/2011	2.000	N
01/09/2012	2.000	Y
05/14/2012	96.000	N
06/25/2012	49.000	N
07/09/2012	42.000	N
12/03/2012	9.400	Y
02/05/2013	9.400	Y
05/01/2013	4.800	Y
10/16/2013	4.700	Y
08/05/2014	4.700	Y

Parameter: COPPER

Test date	Result (ug/l)	Lsthan
07/24/2012	16.100	N
02/05/2013	5.310	N
05/01/2013	4.010	N
07/15/2013	65.500	N
08/12/2013	5.250	N
09/16/2013	18.600	N
10/16/2013	6.750	N

4/7/2015

PRIORITY POLLUTANT DATA SUMMARY

Date Range: 07/Apr/2010 - 07/Apr/2015



Facility Name: GREATER LIMESTONE WTF

NPDES: ME0102849

Test Date	Monthly (Flow MGD)	Daily	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
06/08/2010	0.75	0.83	2	1	0	1	0	0	0	F	0
09/06/2010	0.86	0.69	2	1	0	1	0	0	0	F	0
11/16/2010	1.24	1.26	1	1	0	0	0	0	0	F	0
02/14/2011	0.46	0.50	2	1	0	1	0	0	0	F	0
04/25/2011	1.42	1.53	2	1	0	1	0	0	0	F	0
08/15/2011	2.38	1.90	2	1	0	1	0	0	0	F	0
11/28/2011	0.76	0.71	1	1	0	0	0	0	0	F	0
11/29/2011	1.24	1.00	1	0	0	1	0	0	0	F	0
01/09/2012	0.73	0.74	1	0	0	1	0	0	0	F	0
05/14/2012	1.25	1.38	2	1	0	1	0	0	0	F	0
06/25/2012	1.16	1.19	1	0	0	1	0	0	0	F	0
07/09/2012	0.92	0.96	1	0	0	1	0	0	0	F	0
07/24/2012	0.92	0.75	21	10	0	0	0	11	0	F	0

Key:

A = Acid O = Others P = Pesticides
 BN = Base Neutral M = Metals V = Volatiles

4/7/2015

PRIORITY POLLUTANT DATA SUMMARY

Date Range: 07/Apr/2010 - 07/Apr/2015



Facility Name: GREATER LIMESTONE WTF

NPDES: ME0102849

Test Date	Monthly (Flow MGD)	Daily	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
12/03/2012	0.58	0.70	2	1	0	1	0	0	0	F	0
02/05/2013	0.57	0.69	12	10	0	1	0	1	0	F	0
05/01/2013	1.08	0.98	135	14	28	46	25	11	11	F	0
07/15/2013	0.09	0.57	11	10	0	0	0	1	0	F	0
08/12/2013	1.38	1.27	1	1	0	0	0	0	0	F	0
09/16/2013	1.45	1.72	1	1	0	0	0	0	0	F	0
10/16/2013	0.80	0.72	19	7	0	1	0	11	0	F	0
11/25/2013	NR	NR	3	3	0	0	0	0	0	F	0
08/05/2014	0.56	0.69	1	0	0	1	0	0	0	F	0

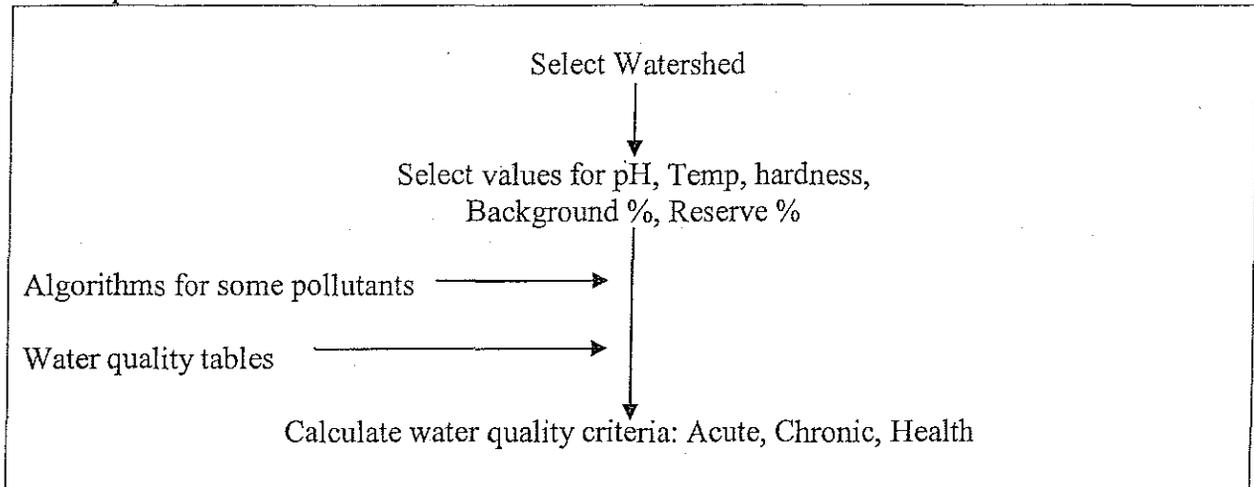
Key:

A = Acid O = Others P = Pesticides
 BN = Base Neutral M = Metals V = Volatiles

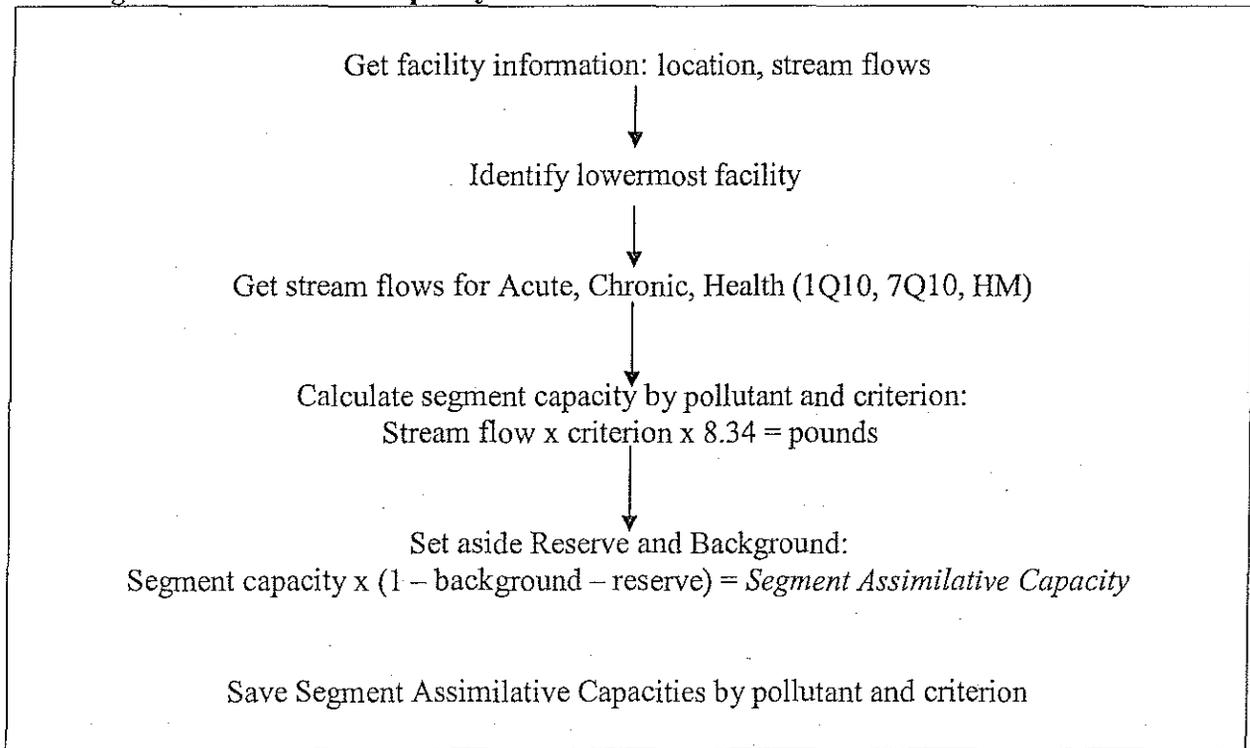
ATTACHMENT E

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

I. Preparation

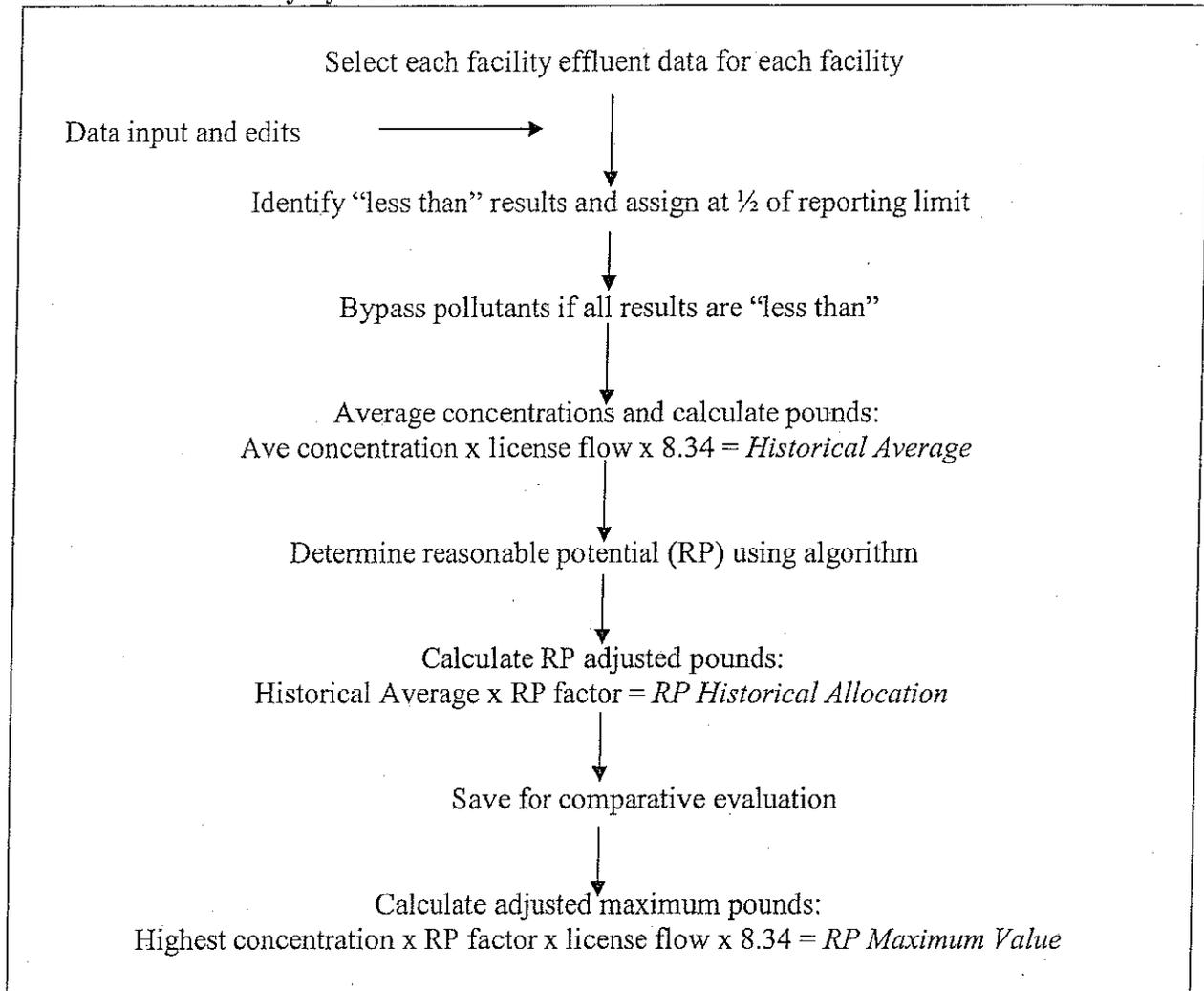


II. Segment Assimilative Capacity

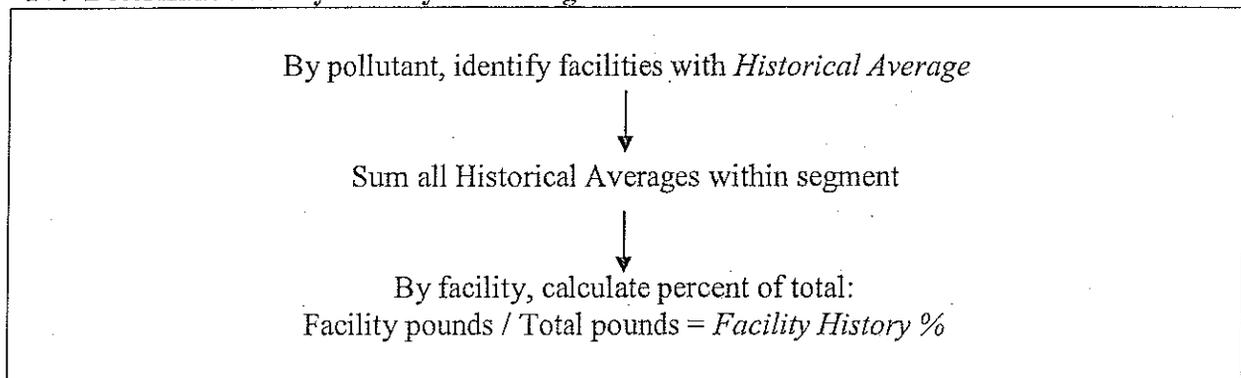


Maine Department of Environmental Protection
General Processing Steps in "DeTox"

III. Evaluate History by Pollutant

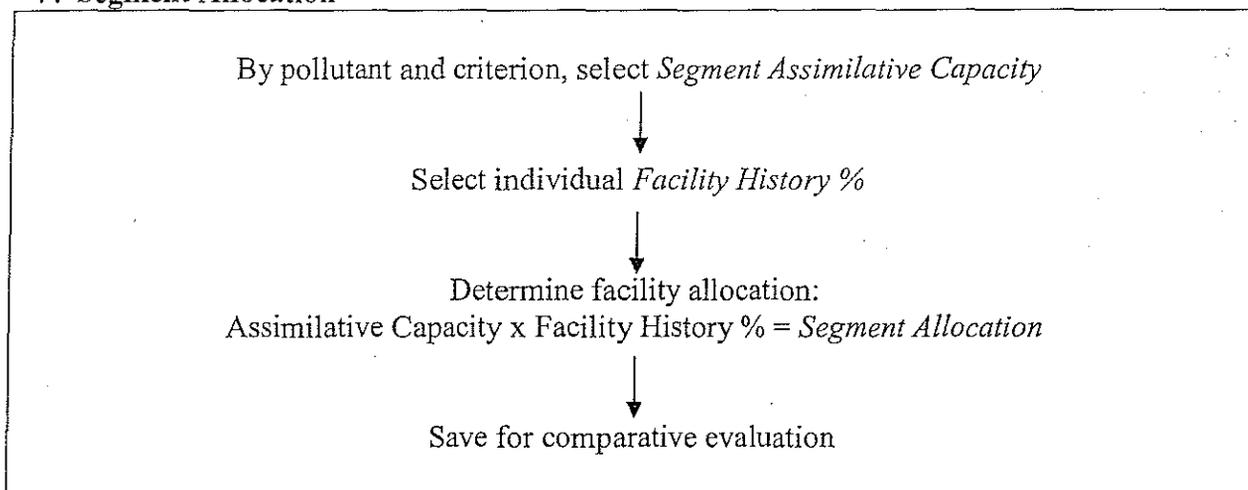


IV. Determine Facility History Percentage

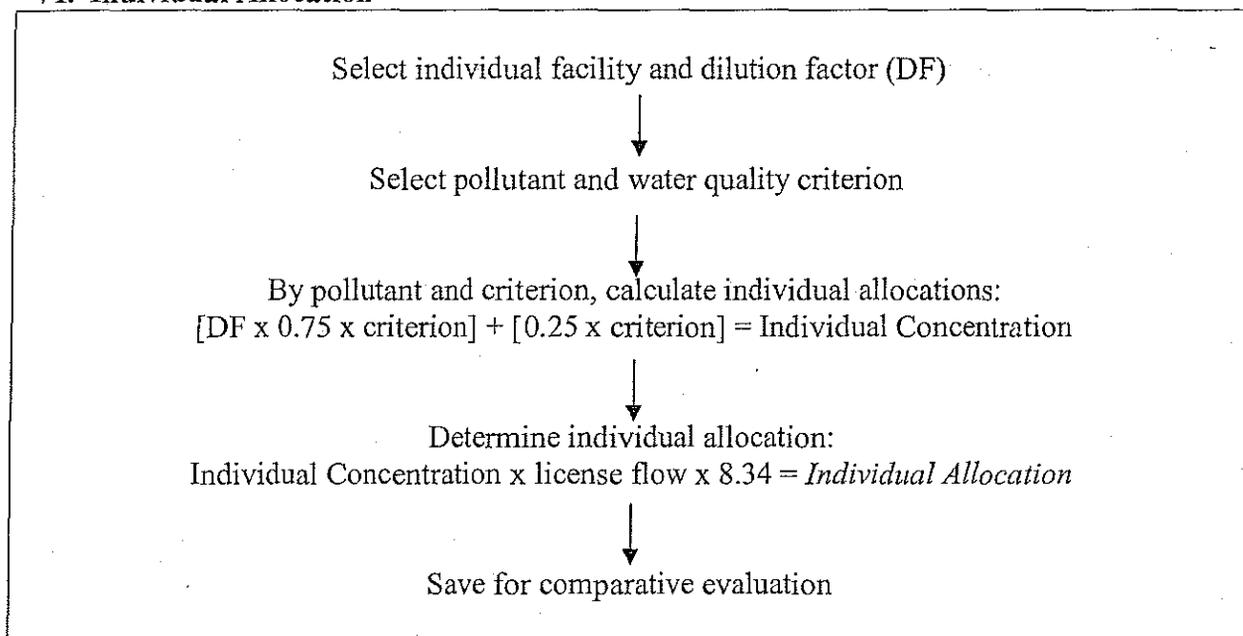


Maine Department of Environmental Protection
General Processing Steps in "DeTox"

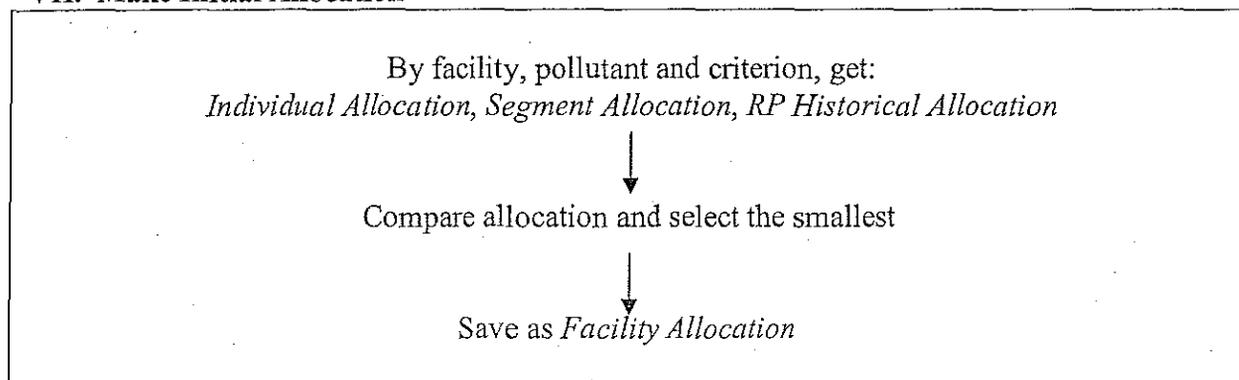
V. Segment Allocation



VI. Individual Allocation

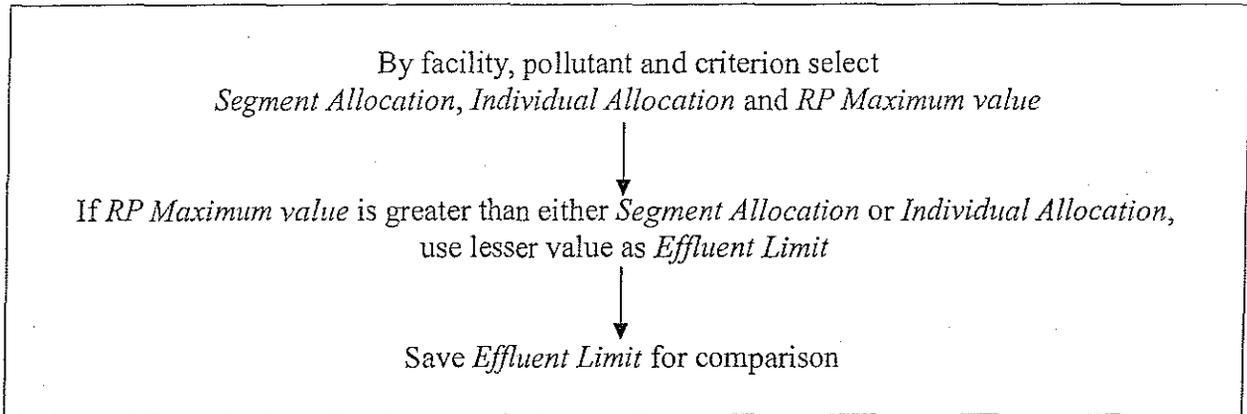


VII. Make Initial Allocation

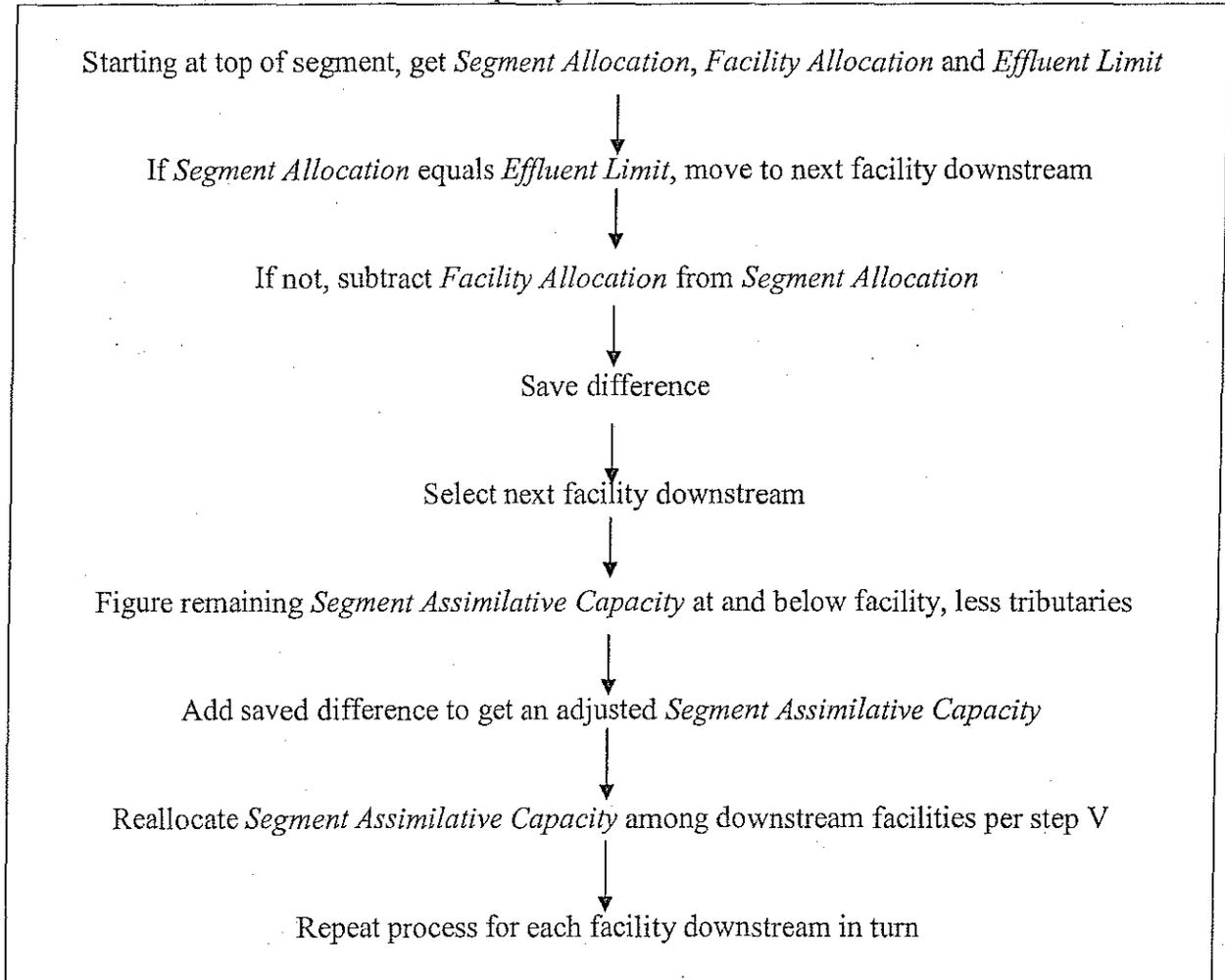


Maine Department of Environmental Protection
General Processing Steps in "DeTox"

VIII. Evaluate Need for Effluent Limits



IX. Reallocation of Assimilative Capacity



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 than 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.

ATTACHMENT F

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.