



STATE OF MAINE
Department of Environmental Protection

Paul R. Lepage
GOVERNOR

Patricia W. Aho
COMMISSIONER

March 30, 2015

Mr. William Littlefield
Superintendent
48 Morton Ave., Suite A
Dover-Foxcroft, ME. 04426
e-mail: wastewtr@dover-foxcroft.org

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100501
Maine Waste Discharge License (WDL) Application #W002633-6C-F-R
Proposed Draft Permit

Dear Mr. Littlefield:

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 **Thursday, April 30, 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.

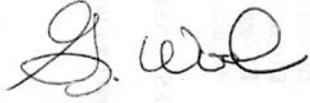
BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

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: Tanya Hovell, DEP/EMRO
Barry Mower, DEP/CMRO
Lori Mitchell, DEP/CMRO
David Webster, USEPA
David Pincumbe, USEPA
Alex Rosenberg, USEPA
Maine Inland Fisheries & Wildlife
Maine Department of Marine Resources
Ivy Frignoca, CLF



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

DEPARTMENT ORDER

IN THE MATTER OF

TOWN OF DOVER-FOXCROFT) MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS) ELIMINATION SYSTEM PERMIT
DOVER-FOXCROFT, PISCATAQUIS COUNTY) AND
ME0100501) WASTE DISCHARGE LICENSE
W002633-6C-F-R) **APPROVAL**) **RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, *et seq.* and Maine Law 38 M.R.S.A., Section 414-A *et seq.*, and applicable regulations, the Department of Environmental Protection (the Department hereinafter) has considered the application of the TOWN OF DOVER-FOXCROFT (Town/permittee hereinafter), with its supportive data, agency review comments, and other related material on file and finds the following facts:

APPLICATION SUMMARY

The Town has submitted a timely and complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0100501/Maine Waste Discharge License (WDL) #W002633-6C-E-R (permit hereinafter) that was issued by the Department on September 29, 2009, for a five-year term. The 9/29/09 permit authorized the discharge of up to a monthly average flow of 0.80 million gallons per day (MGD) of secondary treated sanitary waste waters to the Piscataquis River, Class B, in Dover-Foxcroft, Maine.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the 9/29/09 except this permit is;

1. Eliminating the monthly average water quality based mass and concentration limits for total lead as a statistical evaluation on the most current 60 months of test results submitted to the Department indicates the discharge no longer exceeds or has a reasonable potential to exceed the chronic ambient water quality criteria (AWQC) for total lead.
2. Eliminating Special Condition C, *Disinfection*, from the permit as the Department has reconsidered the value of said condition.

PERMIT SUMMARY (cont'd)

3. Incorporating previously established average and maximum technology based concentration limits for total mercury so the results can be tracked in the federal Integrated Compliance Information System (ICIS).
4. Eliminating the option for the facility to report the NODI 9 code on the Discharge Monitoring Report (DMR) when calculating percent removal when the average influent concentration is less than 200 mg/L based on guidance from the U.S. Environmental Protection Agency (EPA).
5. Increasing the water quality based monthly average and or daily mass limitations for ammonia and total copper based on an undated statistical evaluation and reallocation of loadings of toxic pollutants in the Piscataquis River watershed.
6. Reducing the monitoring frequency for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 2/Week to 1/Week, *E. coli* bacteria from 2/Week to 1/Week, total residual chlorine from 1/Day to 4/Week and pH from 5/Week to 1/Week based on a statistical evaluation of the test results for each parameters for the period January 2011 – June 2014.
7. Establishing a monthly average water quality based mass limitation for total phosphorus as the discharge has a reasonable potential to exceed a national in-stream total phosphorus concentration goal 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.

CONCLUSIONS

BASED on the findings in the attached **PROPOSED DRAFT** Fact Sheet dated March 31, 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 that the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, 38 MRSA Section 464(4)(F), will be met, in that:
 - a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
 - b. Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;
 - c. Where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and
 - e. Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharges will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the application of the TOWN OF DOVER-FOXCROFT, to discharge up to a monthly average flow of 0.80 million gallons per day (MGD) of secondary treated sanitary waste waters to the Piscataquis River, Class B, in Dover-Foxcroft. The discharges shall be 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 becomes effective upon the date of signature below and expires at midnight five (5) years after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S.A. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (effective April 1, 2003)].

DONE AND DATED AT AUGUSTA, MAINE, THIS ____DAY OF_____, 2015.

COMMISSIONER OF ENVIRONMENTAL PROTECTION

BY: _____
Patricia W. Aho, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application _____ August 20, 2014 _____.

Date of application acceptance _____ August 21, 2014 _____.

Date filed with Board of Environmental Protection _____

This Order prepared by GREGG WOOD, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge secondary treated waste waters to the Piscataquis River. Such treated waste water discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow [50050]	0.80 MGD _[03]	---	Report (MGD) _[03]	---	---	---	Continuous _[99/99]	Recorder _[RC]
Biochemical Oxygen Demand (BOD ₅) [00310]	200 lbs/Day _[26]	300 lbs/Day _[26]	334 lbs/Day _[26]	30 mg/L _[19]	45 mg/L _[19]	50 mg/L _[19]	1/Week _[01/07]	Composite _[24]
BOD ₅ % Removal ⁽¹⁾ [81010]	---	---	---	85% _[23]	---	---	1/Month _[01/30]	Calculate _[CA]
Total Suspended Solids (TSS) [00530]	200 lbs/Day _[26]	300 lbs/Day _[26]	334 lbs/Day _[26]	30 mg/L _[19]	45 mg/L _[19]	50 mg/L _[19]	1/Week _[01/07]	Composite _[24]
TSS % Removal ⁽¹⁾ [81011]	---	---	---	85% _[23]	---	---	1/Month _[01/30]	Calculate _[CA]
<i>E. coli</i> Bacteria ⁽²⁾ [31633] (May 15 – September 30)	---	---	---	64/100 ml ⁽³⁾ _[13]	---	427/100 ml _[13]	1/Week _[01/07]	Grab _[GR]
Total Residual Chlorine ⁽⁴⁾ [50060]	---	---	---	0.10 mg/L _[19]	---	0.20 mg/L _[19]	4/Week _[04/07]	Grab _[GR]
Total Phosphorus ⁽⁵⁾ [00665] (June 1 – September 30)	12 lbs/Day _[26]	---	---	Report mg/L _[19]	---	Report mg/L _[19]	2/Month _[02/30]	Grab _[GR]
pH (Std. Units) [00400]	---	---	---	---	---	6.0-9.0 ⁽⁶⁾ _[12]	1/Week _[01/07]	Grab _[GR]

SPECIAL CONDITIONS

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

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Ammonia ^[00610] (June 1–September 30)	279 lbs/Day ^[26]	---	---	Report mg/L ^[19]	---	---	2/Year ^[02/YR]	Composite ^[24]
Copper (Total) ^[01042]	0.088 lbs/Day	---	0.076 lbs/Day	Report ug/L ^[28]	---	Report ug/L ^[28]	1/Quarter ^[01/90]	Composite ^[24]
Mercury (Total) ⁽⁷⁾ ^[71900]	---	---	---	16.9 ng/L ^[3M]	---	25.3 ng/L ^[3M]	1/Year ^[01/YR]	Grab ^[GR]

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:

Effluent Characteristic	Discharge Limitations						Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity (WET) ⁽⁸⁾								
<u>A-NOEL</u>								
<i>Ceriodaphnia dubia</i> ^[TDA3B]	---	---	---	---	---	Report % ^[23]	1/Year ^[01/YR]	Composite ^[24]
<i>Salvelinus fontinalis</i> ^[TDA6F]	---	---	---	---	---	Report % ^[23]	2/Year ^[02/YR]	Composite ^[24]
<u>C-NOEL</u>								
<i>Ceriodaphnia dubia</i> ^[TBP3B]	---	---	---	---	---	Report % ^[23]	1/Year ^[01/YR]	Composite ^[24]
<i>Salvelinus fontinalis</i> ^[TBQ6F]	---	---	---	---	---	5.3 % ^[23]	2/Year ^[02/YR]	Composite ^[24]
Analytical Chemistry ^(9,11) ^[51477]	---	---	---	---	---	Report ug/L ^[28]	1/Year ^[01/YR]	Composite/ Grab ^[24/GR]

SPECIAL CONDITIONS

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

Footnotes:

Sampling Locations:

Influent sampling for BOD₅ and TSS shall be sampled before the first treatment process on a year-round basis. **Effluent sampling** shall be sampled for all parameters after the last treatment process (including dechlorination) on a year-round basis.

Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling – Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 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). Laboratory facilities that analyze compliance samples in-house are subject to the provisions and restrictions of the *Maine Comprehensive and Limited Laboratory Certification Rules*, 10-144 CMR263 (last amended February 13, 2000).

1. **Percent removal** - The treatment facility shall maintain a minimum of 85 percent removal of both BOD₅ and TSS. Compliance with the limitation shall be based on a twelve-month rolling average. Calendar monthly average percent removal values shall be calculated based on influent and effluent concentrations. For the purposes of this permitting action, the twelve-month rolling average calculation is based on the most recent twelve-month period.
2. ***E. coli* bacteria** - Limits are seasonal and apply between May 15th and September 30th of each calendar year. The Department reserves the right to require disinfection on a year-round basis to protect the health and welfare of the public.
3. ***E. coli* bacteria** – The monthly average limitation is a geometric mean limitation and shall be calculated and reported as such.
4. **Total Residual Chlorine** – Limitations and monitoring requirements are applicable whenever elemental chlorine or chlorine based compounds are being used to disinfect the discharge. The permittee shall utilized approved test methods that are capable of bracketing the limitations in this permit.

SPECIAL CONDITIONS

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

Footnotes:

5. **Phosphorus (Total)** – There shall be at least 10 days between sampling events. See **Attachment A** of this permit for a Department protocol for total phosphorus.
6. **pH Range Limitation**– The pH value of the effluent shall not be lower than 6.0 SU nor higher than 9.0 SU at any time unless these limitations are exceeded due to natural causes.
7. **Mercury** – All mercury sampling (1/Year) required to determine compliance with interim limitations established pursuant to *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001) shall be conducted in accordance with EPA’s “clean sampling techniques” found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analyses shall be conducted in accordance with EPA Method 1631E, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry. See **Attachment B**, *Effluent Mercury Test Report*, of this permit for the Department’s form for reporting mercury test results.

The limitation in the monthly average column in table Special Condition A of this permit is defined as the arithmetic mean of all the mercury tests conducted for the facility utilizing sampling Methods 1669 and analysis Method 1631E.

8. **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 9.3% and 5.3% respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points. The critical acute and chronic thresholds were derived as the mathematical inverse of the applicable acute and chronic dilution factors of 10.7:1 and 18.8:1 respectively. See **Attachment C** of this permit for a copy of the Department’s WET reporting form.
 - 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 shall conduct surveillance level WET testing at a minimum frequency of once per year (1/Year) utilizing the water flea (*Ceriodaphnia dubia*) and twice per year (2/Year) utilizing the brook trout (*Salvelinus fontinalis*).

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 shall conduct screening level WET testing at a minimum frequency of quarterly (1/Quarter) for the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*).

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 shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds specified above.

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 D 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.

Each time a WET test is performed, the permittee shall sample and analyze for the parameters in the WET Chemistry and the Analytical Chemistry sections of the Department form entitled, *Maine Department of Environmental Protection, WET and Chemical Specific Data Report Form*. See **Attachment E** of this permit.

9. **Analytical chemistry** – Refers to a suite of parameters listed in **Attachment E** 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 shall conduct surveillance level analytical chemistry testing at a minimum frequency of once per year (1/Year).

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 shall conduct analytical chemistry testing at a minimum frequency of once per calendar quarter (1/Quarter) for four consecutive calendar quarters.
10. **Priority pollutant testing** – Refers to a suite of parameters listed in **Attachment E** of this permit.
- a. **Surveillance level** - Testing is not required pursuant to 06-096 CMR Chapter 530.
- 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 shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year), except for those analytical chemistry parameter(s) otherwise regulated in this permit.
11. **Priority pollutant and analytical chemistry** - Testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests when applicable. Priority pollutant and analytical chemistry testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See **Attachment E** of this permit for a list of the Department’s most current reporting limits (RL’s).

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.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the uses designated for the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated for the classification of the receiving waters.
3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the uses designated for the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

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

D. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system. The permittee shall conduct an Industrial Waste Survey (IWS) at 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 shall 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

E. UNAUTHORIZED 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 August 21, 2014; 2) the terms and conditions of this permit; and 3) only from Outfall #001. Discharges of waste water from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5)(*Bypass*) of this permit.

F. NOTIFICATION REQUIREMENT

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 into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change 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 caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

G. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall maintain a current written Wet Weather Flow 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.

Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility, the permittee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan which conforms to Department guidelines for such plans. The revised plan shall 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 shall review their plan annually** and record any necessary changes to keep the plan up to date.

SPECIAL CONDITIONS

H. OPERATION & MAINTENANCE (O&M) PLAN

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

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

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

I. DISPOSAL OF TRANSPORTED WASTE INTO THE WASTE WATER TREATMENT FACILITY

The permittee is prohibited from accepting transported waste for disposal into any part or parts of the waste water disposal system. "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.

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

By December 31 of each calendar year, the permittee shall provide the Department with a certification describing any of the following that have occurred since the effective date of this permit [*ICIS Code 75305*]: See **Attachment F** of the Fact Sheet of this permit for an acceptable certification form to satisfy this Special Condition.

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; and

SPECIAL CONDITIONS

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

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

Further, the Department may require that annual WET or priority pollutant testing be reinstated if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

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

- (e) Increases in the type or volume of hauled wastes accepted by the facility.

The Department reserves the right to reinstate annual (surveillance level) testing or other toxicity testing if new information becomes available that indicates the discharge may cause or have a reasonable potential to cause exceedences of ambient water quality criteria/thresholds.

K. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following address:

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

SPECIAL CONDITIONS

K. MONITORING AND REPORTING (cont'd)

Alternatively, if you are submitting an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the 15th day of the month following the completed reporting period. Hard Copy documentation submitted in support of the eDMR must be postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that it is received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15th day of the month following the completed reporting period.

L. REOPENING OF PERMIT FOR MODIFICATIONS

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 anytime and with notice to the permittee, modify this permit to; 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded, (2) require additional effluent and or ambient water quality 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 shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

ATTACHMENT A

Protocol for Total Phosphorus Sample Collection and Analysis for Waste Water Effluent

Approved Analytical Methods: EPA 200.7 (Rev. 44), 365.1 (Rev. 2.0), (Lachat), 365.3, 365.4; SM 3120 B, 4500-P B.5, 4500-P E, 4500-P F, 4500-P G, 4500-P H; ASTM D515-88(A), D515-88(B); USGS I-4471-97, I-4600-85, I-4610-91; OMAAOAC 973.55, 973.56 (laboratory must be certified for any method performed)

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

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

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

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

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

ATTACHMENT B

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 C

**MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
FRESH WATERS**

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

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

Facility Telephone # _____ Date Collected _____ 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 D

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 E

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		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	Acute					Chronic		
	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

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **March 30, 2015**

PERMIT NUMBER: **ME0100501**
LICENSE NUMBER: **W002633-6C-F-R**

NAME AND ADDRESS OF APPLICANT:

TOWN OF DOVER-FOXCROFT
48 Morton Ave., Suite A
Dover-Foxcroft, Maine 04426

COUNTY: **Piscataquis County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

478 Vaughn Road
Dover-Foxcroft, Maine 04426

RECEIVING WATER/CLASSIFICATION: **Piscataquis River/Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **William Littlefield, Plant Mgr.**
(207) 564-3905
[**wastewtr@dover-foxcroft.org**](mailto:wastewtr@dover-foxcroft.org)

1. APPLICATION SUMMARY

- a. Application - The Town of Dover Foxcroft (Town/permittee hereinafter) has submitted a timely and complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0100501/Maine Waste Discharge License (WDL) #W002633-6C-E-R (permit hereinafter) that was issued by the Department on September 29, 2009, for a five-year term. The 9/29/09 permit authorized the discharge of up to a monthly average flow of 0.80 million gallons per day (MGD) of secondary treated sanitary waste waters to the Piscataquis River, Class B, in Dover-Foxcroft, Maine. See **Attachment A** of this Fact Sheet for a location map.

1. APPLICATION SUMMARY

- b. Source Description: The waste water treatment facility receives sanitary waste water flows from approximately 3,100 residential and commercial users in the Town of Dover-Foxcroft. The collection system is approximately 20 miles in length and is mostly separated with no combined sewer overflows (CSO). The collection system has three pump stations and all three have on-site back-up power in the event of a power failure. The existing sewer system has some inflow and infiltration (I&I) that periodically hydraulically overloads the facility. The Town has been implementing a program to completely separate the sanitary waste water collection from storm water collection system and eliminate as much of the I&I such that all the sanitary waste water makes its way to the waste water treatment facility.
- c. Waste Water Treatment: The Town's waste water treatment facility provides a secondary level of treatment via an aerated lagoon system. The lagoon system is comprised of three lagoons operated in series with a total surface area of approximately 9.1 acres, a total capacity of 22.9 million gallons with a detention time of 59 days. Aeration in the three treatment lagoons is provided by diffused aeration and mechanical aerators. Preliminary treatment at the facility is provided by a step screen and a grit chamber. The effluent is seasonally disinfected with sodium hypochlorite and dechlorinated with sodium bisulfite prior to discharge to the Piscataquis River. The effluent is discharged to the receiving water via an 18 inch diameter ductile iron pipe that extends out into the receiving water approximately 50 feet, or ¼ of the width of the river. See **Attachment B** of this Fact Sheet for a schematic of the waste water treatment process.

2. PERMIT SUMMARY

- a. Terms and Conditions: This permitting action is carrying forward all the terms and conditions of the 9/29/14 except this permit is;
1. Eliminating the monthly average water quality based mass and concentration limits for total lead as a statistical evaluation on the most current 60 months of test results submitted to the Department indicates the discharge no longer exceeds or has a reasonable potential to exceed the chronic ambient water quality criteria (AWQC) for total lead.
 2. Eliminating Special Condition C, *Disinfection*, from the permit as the Department has reconsidered the value of said condition.
 3. Incorporating previously established average and maximum technology based concentration limits for total mercury so the results can be tracked in the federal Integrated Compliance Information System (ICIS).

2. PERMIT SUMMARY (cont'd)

4. Eliminating the option for the facility to report the NODI 9 code on the Discharge Monitoring Report (DMR) when calculating percent removal when the average influent concentration is less than 200 mg/L based on guidance from the U.S. Environmental Protection Agency (EPA).
5. Increasing the water quality based monthly average and or daily mass limitations for ammonia and total copper based on an undated statistical evaluation and reallocation of loadings of toxic pollutants in the Piscataquis River watershed.
6. Reducing the monitoring frequency for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 2/Week to 1/Week, *E. coli* bacteria from 2/Week to 1/Week, total residual chlorine from 1/Day to 4/Week and pH from 5/Week to 1/Week based on a statistical evaluation of the test results for each parameters for the period January 2011 – June 2014.
7. Establishing a monthly average water quality based mass limitation for total phosphorus as the discharge has a reasonable potential to exceed a national in-stream total phosphorus concentration goal of less than 100 ug/L in streams or other flowing waters not discharging directly to lakes or impoundments to prevent nuisance algal growth.

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

July, 1991 - The Town completed construction and commenced operations of the new waste water treatment facility.

February 9, 1993 - The Department issued WDL #W002633-46-B-R to the Town of Dover-Foxcroft for the discharge of 0.80 MGD of secondary treated sanitary waste water to the Piscataquis River. As a result of the construction of the waste water treatment facility, combined sewer overflows (CSO's) were reduced from sixteen to four in number. Three of the four CSO discharge points were overflow structures associated with protecting pump stations during excessive storm water flows. All four discharge points were technically considered to be CSO's in accordance with Department regulation Chapter 570, *Stormwater and Combined Sewer Overflows*. Chapter 570 authorized the discharge from these CSO's provided the facility met specified criteria.

February 8, 1995 – The Department administratively modified WDL #W002633-46-B-R by issuing a letter to the Town notifying them it was subject to Department rule, 06-096 CMR, Chapter 530.5, *Surface Water Toxics Control Program*, adopted by the Board of Environmental Protection on October 12, 1994.

November 29, 1999 – The Department issued WDL #W002633-5L-C-R for a five-year term.

2. PERMIT SUMMARY (cont'd)

May 25, 2000 – The Department unilaterally modified the 11/29/99 WDL by establishing interim average and maximum concentration limits for mercury.

January 12, 2001 – The State of Maine received authorization from the EPA to administer the NPDES permitting program in Maine. The program has since been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program.

September 13, 2002 – The Department administratively modified the 11/29/99 WDL by establishing new dilution factors (increased) associated with the discharge. As a result, water quality based limitations for copper and zinc were eliminated.

September 7, 2004 – The Department issued combination MEPDES permit #ME0100501/WDL #W002633-5L-D-R for a five-year term.

April 10, 2006 – The Department modified the 9/7/04 MEPDES permit/WDL by establishing whole effluent toxicity and chemical specific testing pursuant to Department rule 06-096 CMR, Chapter 530, *Surface Water Toxics Control Program*, promulgated on October 12, 2005.

July 24, 2009 – The Town submitted a timely and complete application to the Department to renew the 9/7/04 MEPDES permit/WDL.

December 29, 2009 – The Department issued combination MEPDES permit #ME0100501/WDL #W002633-6C-E-R for a five-year term.

August 20, 2014 - The Town submitted a timely and complete application to the Department to renew the 12/29/09 MEPDES permit/WDL.

3. CONDITIONS OF PERMITS

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

4. RECEIVING WATER STANDARDS

Maine law, 38 M.R.S.A., Section 467(7)(E)(1)(c) classifies the Piscataquis River as a Class B waterway. Maine law, 38 M.R.S.A., Section 465(3 & 4) describes the classification standards for Class B waters as follows:

Class B 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 habitat for fish and other aquatic life. The habitat must be characterized as unimpaired.

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

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

5. RECEIVING WATER CONDITIONS

The Department conducted ambient water quality surveys in 1997, 1998 and 2001 on the Piscataquis River in an effort to assess the existing water quality and develop a water quality model to support the issuance of a total maximum daily load (TMDL) report. Ambient water quality sampling was conducted on 23 miles of the Piscataquis River from Guilford to Milo. The Department published a document entitled, *Piscataquis River Data Report, 2001 Survey, January 2002, DEPLW0465*, with the results of the sampling events.

The *2012 Integrated Water Quality Monitoring and Assessment Report*, published by the Department (often referred to as the 305b Report) lists a 13.44 mile segment of the Piscataquis River below the Dover-Foxcroft waste water treatment facility (ME0102000402_219R01) in a table entitled, *Table 5-A: Rivers And Streams Impaired By Pollutants Other Than Those Listed in 5-B Through 5-D (TMDL Required)*. The report cites the cause of the impairment is low dissolved oxygen levels. Previous 305b reports listed low dissolved oxygen levels and bacteria as a result of municipal point sources, agricultural non-point sources and combined sewer overflows as being the cause of the impairment.

5. RECEIVING WATER CONDITIONS (cont'd)

The Department is scheduled to perform a comprehensive ambient water quality survey during the summer of 2015 and prepare a TMDL for the 13.44-mile segment during calendar year 2016. If the TMDL indicates that at full permitted discharge limits, the discharge from the Dover-Foxcroft facility is causing or contributing to the non-attainment of ambient water quality standards, this permit will be re-opened per Special Condition L, *Reopening Of The Permit For Modifications*, to impose more stringent limitations to meet water quality standards.

All freshwaters in the State of Maine are listed as *Category 4-A: Waters Impaired By Atmospheric Deposition of Mercury*, in a document entitled, *2012 Integrated Water Quality Monitoring and Assessment Report*, published by the Department. Impairment in this context refers to the designated use of recreational fishing due to elevated levels of mercury in some fish caused by atmospheric deposition. As a result, the State has established a fish consumption advisory for all freshwaters in Maine. The Report states that a regional scale TMDL has been approved.

In addition, pursuant to Maine law, 38 M.R.S.A. §420(1-B)(B), “*a facility is not in violation of the ambient criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413 subsection 11.*” The Department has established interim monthly average and daily maximum mercury concentration limits for this facility. See the discussion on compliance in section 6(k) of this Fact Sheet.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- a. Flow: The previous permit established a monthly average flow limitation of 0.80 MGD that is being carried forward in this permitting action and is considered to be representative of the monthly average design flow for the waste water treatment facility.

A review of the monthly DMR data for the period January 2011 – June 2014 indicates the permittee has reported flows as follows:

Flow (42 DMRs)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	0.80	0.094 – 0.33	0.29
Daily Maximum	Report	0.14 – 1.21	0.51

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

- b. Dilution Factors - The Department established applicable dilution factors for the discharge in accordance with freshwater protocols established in Department Rule Chapter 530 *Surface Water Toxics Control Program*, October 2005. With a permitted flow limit of 0.80 MGD, the dilution factors are as follows:

$$\text{Acute: } 1\text{Q}10^{(1)} = 12.1 \text{ cfs} \quad \Rightarrow \frac{(12.1 \text{ cfs})(0.6464) + (0.80 \text{ MGD})}{(0.80 \text{ MGD})} = 10.7:1$$

$$\text{Chronic: } 7\text{Q}10 = 22.1 \text{ cfs} \quad \Rightarrow \frac{(22.1 \text{ cfs})(0.6464) + (0.80 \text{ MGD})}{(0.80 \text{ MGD})} = 18.8:1$$

$$\text{Harmonic Mean}^{(2)} = 135.1 \text{ cfs} \quad \Rightarrow \frac{(135 \text{ cfs})(0.6464) + (0.80 \text{ MGD})}{(0.80 \text{ MGD})} = 110:1$$

Footnotes

- (1) Chapter 530.5 (D)(4)(a) states that analyses using numeric acute criteria for aquatic life must be based on 1/4 of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The 1Q10 is the lowest one-day flow over a ten-year recurrence interval. The regulation goes on to say that where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design, up to including all of it.

The Department evaluated the mixing characteristics of the river via a receiving water flow study in September of 2002. Due to the location of an island in the river, the Department determined that approximately 81.7% of the 1Q10 (14.8 cfs) was available for dilution. Therefore, the Department established 12.1 cfs as the receiving water 1Q10 flow value to be used in calculating the acute dilution factor.

- (2) In the 2004 permitting action, the harmonic mean dilution factor (54.6:1) was approximated by multiplying the 7Q10 receiving water flow by three (3) or 83.1 cfs. This multiplying factor was based on guidelines for estimation of human health dilution presented in the USEPA publication "*Technical Support Document for Water Quality-based Toxics Control*" (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

The Department re-evaluated the harmonic mean receiving water flow in the summer of 2009 based on the actual flows recorded over time at the Howland gauge. As a result, a new harmonic mean flow of 135.1 cfs was established for the permittee's facility.

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

- c. Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS): - The previous permit established monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that were based on secondary treatment requirements of 06-096 CMR Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L was based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action.

As for mass limitations, the previous permitting action established monthly average, weekly average and daily maximum limitations based on a monthly average limit of 0.80 MGD that are being carried forward in this permitting action. The limitations were calculated as follows:

Monthly average: $(0.80 \text{ MGD})(8.34)(30 \text{ mg/L}) = 200 \text{ lbs/day}$
 Weekly average: $(0.80 \text{ MGD})(8.34)(45 \text{ mg/L}) = 300 \text{ lbs/day}$
 Daily maximum: $(0.80 \text{ MGD})(8.34)(50 \text{ mg/L}) = 334 \text{ lbs/day}$

A review of the monthly DMR data for the period January 2011 – June 2014 indicates the permittee has reported BOD and TSS results as follows:

BOD Mass (42 DMRs)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	200	8 - 97	43
Daily Maximum	334	13 - 193	72

BOD Concentration (42 DMRs)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	4 - 28	16
Daily Maximum	50	6 - 49	24

TSS mass (42 DMRs)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	200	10 - 113	43
Daily Maximum	334	13 - 158	70

TSS Concentration (42 DMRs)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	35	6 - 30	16
Daily Maximum	60	6 - 48	22

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

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 42 months of data (January 2011 – June 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 22%. According to Table I of the EPA Guidance, a 2/Week monitoring requirement can be reduced to 1/Week.. Therefore, this permitting action is reducing the monitoring frequency for TSS to 1/Week

The previous permitting action established a requirement of 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3) except in the circumstances where the influent concentration is less than 200 mg/L. Compliance was based on a 12-month rolling average period to be consistent with all other Department permitting actions for lagoon systems with extended detention times. The percent removal requirement is being carried forward in this permitting action.

- d. Escherichia coliform (*E. coli.*) bacteria: The previous permitting action established seasonal (between May 15 and September 30 of each year) monthly average and daily maximum concentration limits for *E. coli* bacteria of 64 colonies/100 ml (geometric mean) and 427 colonies/100 ml (instantaneous level), respectively, based on the State of Maine Water Classification Program criteria for Class B waters found at 38 M.R.S.A. §465(3)(B) at the time of permitting along with a minimum monitoring frequency requirement of 2/Week.

During calendar year 2005, Maine's Legislature approved a new daily maximum water quality standards of 236 colonies/100 ml for water bodies designated as Class B and Class C. In the 12/29/09 permit, the Department determined that end-of-pipe limitations for the instantaneous concentration standard of 427 colonies/100 mL would 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 (at least 1.1:1 for facilities in Class B waters). The seasonal (May 15 – September 30) bacteria limits of 64 colonies/100 ml and 427 col/100 ml are being carried forward in this permit. The Department reserves the right to impose year-round bacteria limits, if necessary, to protect the health, safety and welfare of the public.

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

A review of the seasonal monthly DMR data for the period May 2011 – June 2014 indicates the permittee has reported results as follows:

***E. coli* bacteria (17 DMRs)**

Value	Limit (col/100 ml)	Range (col/100 ml)	Mean (col/100 ml)
Monthly Average	64	1 – 29	7
Daily Maximum	427	4 – 238	59

A review of the monitoring data for *E. coli* bacteria indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as 11%. According to Table I of the EPA 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.

- g. Total Residual Chlorine - The previous permitting action established a monthly average technology based limit of 0.1 mg/L and a daily maximum water quality based limit of 0.20 mg/L that are being carried forward in this permit. Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of the water quality or technology based limits in permitting actions. End-of-pipe water quality based concentration thresholds may be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	19 ug/L	11 ug/L	10.7:1	18.8:1	0.20 mg/L	0.21 mg/L

Example calculation: Acute – 0.019 mg/L (10.7) = 0.20 mg/L

For facilities that need to de-chlorinate the discharge to meet water quality based thresholds (as is with the case with Dover-Foxcroft), the Department has established daily maximum and monthly average BPT limits of 0.3 mg/L and 0.1 mg/L respectively. In the case of Dover-Foxcroft, the acute water quality based threshold of 0.20 mg/L calculated above is lower than the BPT limit of 0.3 mg/L, thus the water quality based limit of 0.20 mg/L is being established as daily maximum limit. As for monthly average, the calculated chronic water quality based threshold of 0.21 mg/L is higher than the BPT limit of 0.1 mg/L, thus the technology-based limit of 0.1 mg/L is imposed.

A review of the DMR data for the period May 2011 – June 2014 indicates the permittee has reported values as follows:

Total residual chlorine (16 DMRs)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	0.10	0.02 – 0.06	0.03
Daily Maximum	0.20	0.02 – 0.13	0.08

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

A review of the monitoring data for total residual chlorine indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as 30%. According to Table I of the EPA Guidance, a 1/Day monitoring requirement can be reduced to 3/Week. The Department policy states that monitoring frequencies will not be reduced by more than one half (1/2) of the current monitoring frequency. Therefore, this permitting action is reducing the monitoring frequency for total residual chlorine to 4/Week.

It is noted TRC is potentially toxic at all times of the year. Therefore, whenever elemental chlorine or chlorine based compounds are used to disinfect the discharge from the waste water treatment plant, limitations and monitoring requirements are in effect and enforceable.

- h. Total phosphorus – Department rule 06-096 CMR, Chapter 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 Chapter 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

USEPA's Quality Criteria for Water 1986 (Gold Book) puts forth an in-stream phosphorus concentration goal 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 value is consistent with the requirements of 06-096 CMR Chapter 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 value of 0.1 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 value of 0.1 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. This permit may be reopened during the term of the permit to modify any reasonable potential calculations, phosphorus limits, or monitoring requirements based on new site-specific data.

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)

The permittee conducted total phosphorus testing between June 2006 and September 2008 (n=16). The arithmetic mean concentration discharged for the period is 2.8 mg/L (2,800 ug/L) and 9.7 lbs/day and is considered representative of the discharge from the facility. The 95% confidence interval was 13.5 lbs/day and the 99% confidence interval was 14.8 lbs/day. For the background concentration in the Piscataquis, the permittee conducted sampling upstream of its discharge in the summer of 2014 indicating the background total phosphorus concentration is 0.009 mg/L. Using the following calculation and criteria, the Dover-Foxcroft facility does have a reasonable potential to exceed the EPA’s Gold Book value of 0.1 mg/L for phosphorus and the Department’s Chapter 583 draft criteria of 0.030 mg/L. The calculations are as follows:

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

- Qe = effluent flow i.e. facility design flow = 0.80 MGD
- Ce = effluent pollutant concentration = 2.8 mg/L (6/06 – 9/08)
- Qs = 7Q10 flow of receiving water = 14.3 MGD
- Cs = upstream concentration = 0.010 mg/L (summer 2014)
- Qr = receiving water flow = 15.1 MGD
- Cr = receiving water concentration

$$Cr = \frac{(0.8 \text{ MGD} \times 2.8 \text{ mg/L}) + (14.3 \text{ MGD} \times 0.010 \text{ mg/L})}{15.1 \text{ MGD}} = 0.16 \text{ mg/L}$$

Cr = 0.16 mg/L > 0.1 mg/L ⇒ **Yes, Reasonable Potential**

Cr = 0.16 mg/L > 0.030 mg/L ⇒ **Yes, Reasonable Potential**

Therefore, a water quality based mass limitation for total phosphorus is being established in this permitting action. The calculation is as follows:

Given:

- Chronic dilution factor = 18.8:1
- Recommended AWQ goal = 100 ug/L
- Background concentration = 0.010 ug/L
- Permitted effluent flow 0.80 MGD

$$\text{EOP concentration} = [\text{Dilution factor} \times 0.90 \times \text{AWQ goal}] + [0.10 \times \text{AWQC goal}]$$

$$\text{EOP concentration} = [(18.8 \times 0.90 \times 100 \text{ ug/L}) + (0.10 \times 100 \text{ ug/L})] = 1,702 \text{ ug/L}$$

$$\text{Monthly average mass limit: } (0.80 \text{ MGD})(8.34 \text{ lbs/gal})(1.702 \text{ mg/L}) = \mathbf{11 \text{ lbs/day}}$$

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

- i. pH Range- The previous permitting action established a technology based BPT pH range limitation of 6.0 –9.0 standard units pursuant to Department rule, 06-096 CMR Chapter 525(3)(III)(c) and is being carried forward in this permitting action. A review of the DMR data for the period May 2011 – June 2014 indicates the permittee has reported values as follows:

pH (DMRs = 42)

Value	Limit (su)	Minimum (su)	Maximum (su)
Range	6.0 – 9.0	6.9	8.9

Given the excellent compliance history, the Department is making a best professional judgment to reduce the monitoring frequency for pH from 5/Week to 1/Week to be consistent with the monitoring frequency for BOD and TSS.

- j. Whole Effluent Toxicity (WET) and Chemical Specific Testing Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing as required by Chapter 530, is included in this permit in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment and receiving water characteristics.

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

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

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

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

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 I frequency category as the facility has a chronic dilution factor of <20:1. Chapter 530(1)(D)(1) specifies that routine screening and surveillance level testing requirements are as follows:

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

Level	WET Testing	Priority pollutant testing	Analytical chemistry
I	2 per year	None required	4 per year

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,

Level	WET Testing	Priority pollutant testing	Analytical chemistry
I	4 per year	1 per year	4 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 dates and test results for WET and **Attachment D** for chemical specific testing dates and results for pollutants of concern.

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

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

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

Chapter 530 §3 states, *“The Department shall establish appropriate discharge prohibitions, effluent limits and monitoring requirements in waste discharge licenses if a discharge contains pollutants that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an ambient excursion in excess of a numeric or narrative water quality criteria or that may impair existing or designated uses. The licensee must also control whole effluent toxicity (WET) when discharges cause, have a reasonable potential to cause, or contribute to an ambient excursion above the narrative water quality criteria. “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 – The previous permitting action did not establish A-NOEL or C-NOEL limits for the water flea (*Ceriodaphnia dubia*) or the brook trout (*Salvelinus fontinalis*) as a statistical evaluation at that time indicated the discharge did not exceed or have a reasonable potential to exceed critical acute and or chronic WET thresholds of 9.3% and 5.3% respectively. The critical thresholds were calculated as the mathematical inverse of the acute and chronic dilution factor of 10.7:1 and 18.8:1 respectively.

On August 21, 2014, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department in accordance with the statistical approach specified in 06-096 CMR Chapter 530. The 8/21/14 statistical evaluation indicates the discharge from the permittee’s waste water treatment facility has two test results (2/27/12 and 6/10/13) for the brook trout that have a reasonable potential to exceed the critical chronic threshold of 5.3% . Therefore, this permit is establishing a C-NOEL limit of 5.3% for the brook trout along with a monitoring frequency 2/Year which is equivalent to a routine surveillance level of testing.

For the water flea, the Town qualifies for the reduced testing frequency provision found at Chapter 530 §2(D)(3) that states *“Dischargers in Level I may reduce surveillance testing to one WET or specific chemical series per year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).”*Therefore, this permitting action establishes a surveillance level monitoring frequency of 1/Year for the water flea and 2/Year for the brook trout beginning upon issuance of the permit and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit).

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

Chapter 530(2)(D)(4) states;

(4) All dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.

- (a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;*
- (b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and*
- (c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.*

Given the Town qualifies for the reduced surveillance level WET testing frequency provision found at Chapter 530 §2(D)(3), Special Condition J, *06-096 CMR 530(2)(D)(4), Statement For Reduced/Waived Toxics Testing* of this permit requires the permittee to file said statement.

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 revert to a routine screening level WET testing of 1/Quarter WET testing for both the water flea and brook trout.

Analytical chemistry and priority pollutant testing – The 12/29/09 permit established monthly average and or daily maximum water quality based mass and concentration limits for ammonia, total copper and total lead based on a statistical evaluation of the most current 60 months of tests results on file at the Department at that time.

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.*

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

Chapter 530 §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 Piscataquis 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.”*

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

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

The Piscataquis River is a tributary to the Penobscot River. Three municipal waste water treatment facilities that are subject to the Department’s Chapter 530 testing requirements discharge to the Piscataquis River. The waste water treatment facilities are the Milo Water District, the Town of Dover-Foxcroft and the Guilford-Sangerville Sanitary District. The Milo Water District facility is the most downstream facility and the Guilford Sangerville facility is the most upstream facility. As previously cited, Chapter 530 requires that AWQC must be met at the confluence of the Piscataquis River and the Penobscot River as well as at the individual discharge points on the Piscataquis River after taking into consideration historic discharge levels for all three facilities as well as an allocation dedicated to background (10% of AWQC) and a reserve (15% of AWQC).

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

On August 21, 2014, the Department conducted statistical evaluations based on 15% of the ambient water quality criteria reserve being withheld (Report ID 706) and 0% of the reserve of the criteria being withheld (Report ID 705) 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 705 indicates Dover-Foxcroft would no longer have a reasonable potential to exceed the chronic ambient water quality criteria for lead. Therefore, the Department is utilizing the full 15% of the unallocated assimilative capacity in the statistical evaluation when establishing limits for toxic pollutants in waste discharge licenses for facilities in the Penobscot River watershed including the Piscataquis River watershed.

The statistical evaluation (Report ID 705) indicates the Town has two test results that have a reasonable potential to exceed the chronic AWQC for ammonia and has four test results that have a reasonable potential to exceed both the acute and chronic AWQC for total copper.

The 8/21/14 statistical evaluation indicates all three facilities have discharged detectable levels of ammonia and copper. Department guidance that establishes protocols for establishing waste load allocations (mass) can be found as **Attachment E** of this Fact Sheet. The guidance states that the most protective of water quality becomes the facility's allocation. According to the 8/21/14 statistical evaluation, both ammonia and copper are to be limited based on the segment allocation method.

In May 2012, Maine law 38 M.R.S.A. §464, ¶¶ K was enacted which reads as follows, *“Unless otherwise required by an applicable effluent limitation guideline adopted by the department, any limitations for metals in a waste discharge license may be expressed only as mass-based limits.”* There are no applicable effluent limitation guidelines adopted by the Department or the USEPA for metals from a publicly owned treatment works.

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. For the Dover-Foxcroft facility, historical averages for ammonia and copper and were calculated as follows:

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

Ammonia

Mass limits

Mean concentration = 16,420 ug/L or 16.42 mg/L

Permit flow limit = 0.80 MGD

Historical average mass = (16.42 mg/L)(8.34)(0.80 MGD) = 109.554 lbs/day

The 8/21/14 statistical evaluation indicates the historical average mass of ammonia discharged by Dover-Foxcroft is 69.10% of the ammonia discharged by the three facilities on the Piscataquis River. Therefore, Dover-Foxcroft's segment allocation for ammonia is calculated as 69.10% of the chronic assimilative capacity of the river at Milo, the most downstream facility. The assimilative capacity at Milo is calculated as follows:

$7Q_{10} = 27.7 \text{ cfs} (0.6464) = 17.9 \text{ MGD}$

Chronic AWQC = 3,006 ug/L or 3.006 mg/L (based on T=25°C and pH=7.0 su)

Taking into consideration 0% of the AWQC reserve and 10% for background, the assimilative capacity of the Piscataquis River at Milo is:

Chronic = (3.006 mg/L)(0.90)(8.34 lbs/gal)(17.9 MGD) = 404 lbs/day

Monthly average (chronic) mass limitation for ammonia for Dover-Foxcroft is calculated as follows:

Monthly average: (Chronic assimilative capacity mass)(% of total ammonia discharged)
(404 lbs/day)(0.6910) = **279 lbs/day**

Because the AWQC is based on a temperature of 25°C, the ammonia limitation established in this permit is only applicable from June 1 – September 30 of each year.

Copper

Mass limits

Mean concentration = 6.3 ug/L or 0.0063 mg/L

Permit flow limit = 0.80 MGD

Historical average mass = (0.0063 mg/L)(8.34)(0.80 MGD) = 0.0421 lbs/day

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

Copper

Mass limits

The 8/21/14 statistical evaluation indicates the historical average mass of copper discharged by Dover-Foxcroft is 27.72% of the copper discharged by the three facilities on the Piscataquis River. Therefore, Dover-Foxcroft's segment allocation for copper is calculated as 27.72% of the acute and chronic assimilative capacities of the river at Milo. The assimilative capacities at Milo are calculated as follows:

$$1Q10 = 18.5 \text{ cfs} (0.6464) = 12.0 \text{ MGD}$$

$$7Q10 = 27.7 \text{ cfs} (0.6464) = 17.9 \text{ MGD}$$

$$\text{Acute AWQC} = 3.07 \text{ ug/L or } 0.00307 \text{ mg/L}$$

$$\text{Chronic AWQC} = 2.36 \text{ ug/L or } 0.00236 \text{ mg/L}$$

Taking into consideration 0% of the AWQC reserve and 10% for background, the assimilative capacities are:

$$\text{Acute} = (0.00307 \text{ mg/L})(0.90)(8.34 \text{ lbs/gal})(12.0 \text{ MGD}) = 0.276 \text{ lbs/day}$$

$$\text{Chronic} = (0.00236 \text{ mg/L})(0.90)(8.34 \text{ lbs/gal})(17.9 \text{ MGD}) = 0.317 \text{ lbs/day}$$

Daily maximum (acute) and monthly average (chronic) mass limitations for copper are calculated as follows:

$$\begin{aligned} \text{Daily maximum: (Acute assimilative capacity mass)(\% of total copper discharged)} \\ (0.276 \text{ lbs/day})(0.2772) = \mathbf{0.076 \text{ lbs/day}} \end{aligned}$$

$$\begin{aligned} \text{Monthly average: (Chronic assimilative capacity mass)(\% of total copper discharged)} \\ (0.317 \text{ lbs/day})(0.2772) = \mathbf{0.088 \text{ lbs/day}} \end{aligned}$$

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

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 frequency for copper at the routine surveillance level frequency of 1/Quarter specified in Chapter 530. The monitoring frequency for ammonia is being established at twice per year (2/Year) to coincide with the seasonal limitation.

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

As for the remaining chemical specific parameters tested to date, none of the test results in the 60-month evaluation period exceed or have a reasonable potential to exceed applicable acute, chronic or human health AWQC. Therefore, this permitting action is establishing a reduced surveillance level reporting and monitoring frequency of 1/Year for analytical chemistry testing beginning upon issuance of the permit and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit). As with reduced WET testing, the permittee must file an annual certification with the Department pursuant to Chapter 530 §2(D)(3) and Special Condition J, 06-096 CMR 530(2)(D)(4), *Statement For Reduced/Waived Toxics Testing* of this permit.

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 routine screening level analytical chemistry testing at 1/Quarter and priority pollutant testing of 1/Year.

- k. Mercury: Pursuant to *Certain deposits and discharges prohibited*, Maine law, 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), the Department issued a Notice of Interim Limits for the Discharge of Mercury to the permittee on May 23, 2000, thereby administratively modifying MEPDES #ME0100501/WDL # W002633-5B-D-R by establishing interim monthly average and daily maximum effluent concentration limits of 16.9 parts per trillion (ppt) and 25.3 ppt, respectively, and a minimum monitoring frequency requirement of four (4) tests per year for mercury. On February 6, 2012, the Department issued a minor revision of the permit by reducing the monitoring frequency to 1/Year.

Maine law 38 M.R.S.A., §420 1-B,(B)(1) states that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413, subsection 11. A review of the Department's database for the period 2004 to the present indicates mercury test results reported have ranged from 0.63 ppt to 11.0 ppt with an arithmetic mean (n=36) of 3.1 ppt.

7. 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 less stringent water quality based mass limitations for total copper given the 15% reserve capacity withheld in the the previous permitting action is being allocated in this permitting action as doing so eliminates the need for other water quality based limits for other parameters. This constitutes new information since issuance of the previous permitting action.

8. 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 effluent limitations and monitoring requirements for total copper. The rationale for these actions is contained in Section 6 of this Fact Sheet. Based on the information provided in the referenced section, the Department has made the determination that the discharge approved by this permit will not result in a significant lowering of water quality. 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 Piscataquis River to meet standards for Class B classification.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The Department has made a best professional judgment determination based on information gathered to date, that as permitted, the discharge will not cause or contribute the failure of the receiving water to meet the standards of its ascribed classification and the designated uses of the river will continue to be maintained and protected. The Department is scheduled to perform a comprehensive evaluation of more recent data collected, calibrate an existing model of the river and prepare a TMDL for the 13.44 mile segment in 2016. If future modeling runs determine that at full permitted discharge limits, the discharge is causing or contributing to the non-attainment, this permit will be re-opened per Special Condition L, *Reopening of The License For Modifications*, to impose more stringent limitations to meet water quality standards.

10. PUBLIC COMMENTS

Public notice of this application was made in the Piscataquis Observer newspaper on August 6, 2014. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

11. DEPARTMENT CONTACTS

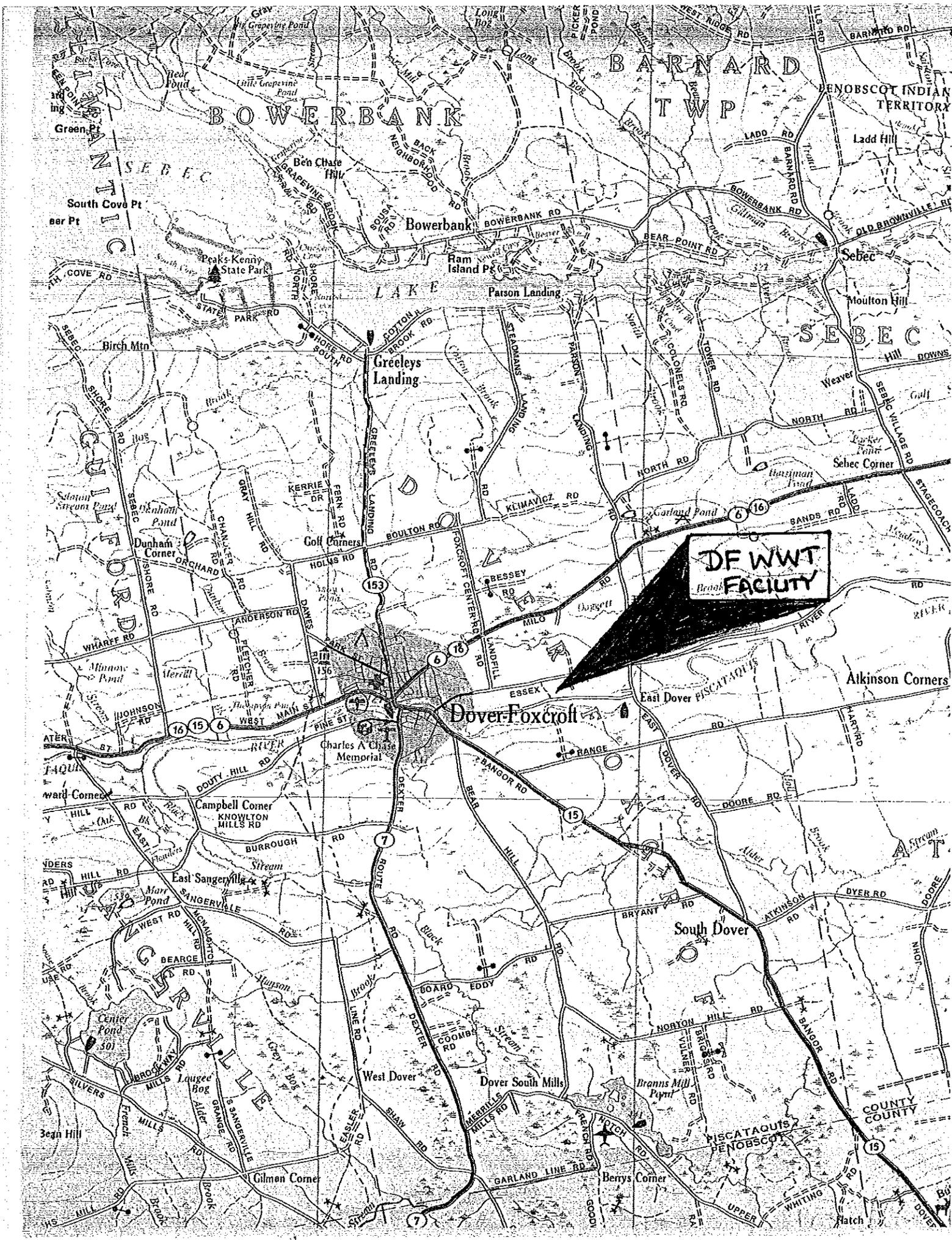
Additional information concerning this permitting action may be obtained from and written comments should be sent to:

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

12. RESPONSE TO COMMENTS

Reserved until the close of the formal 30-day public comment period.

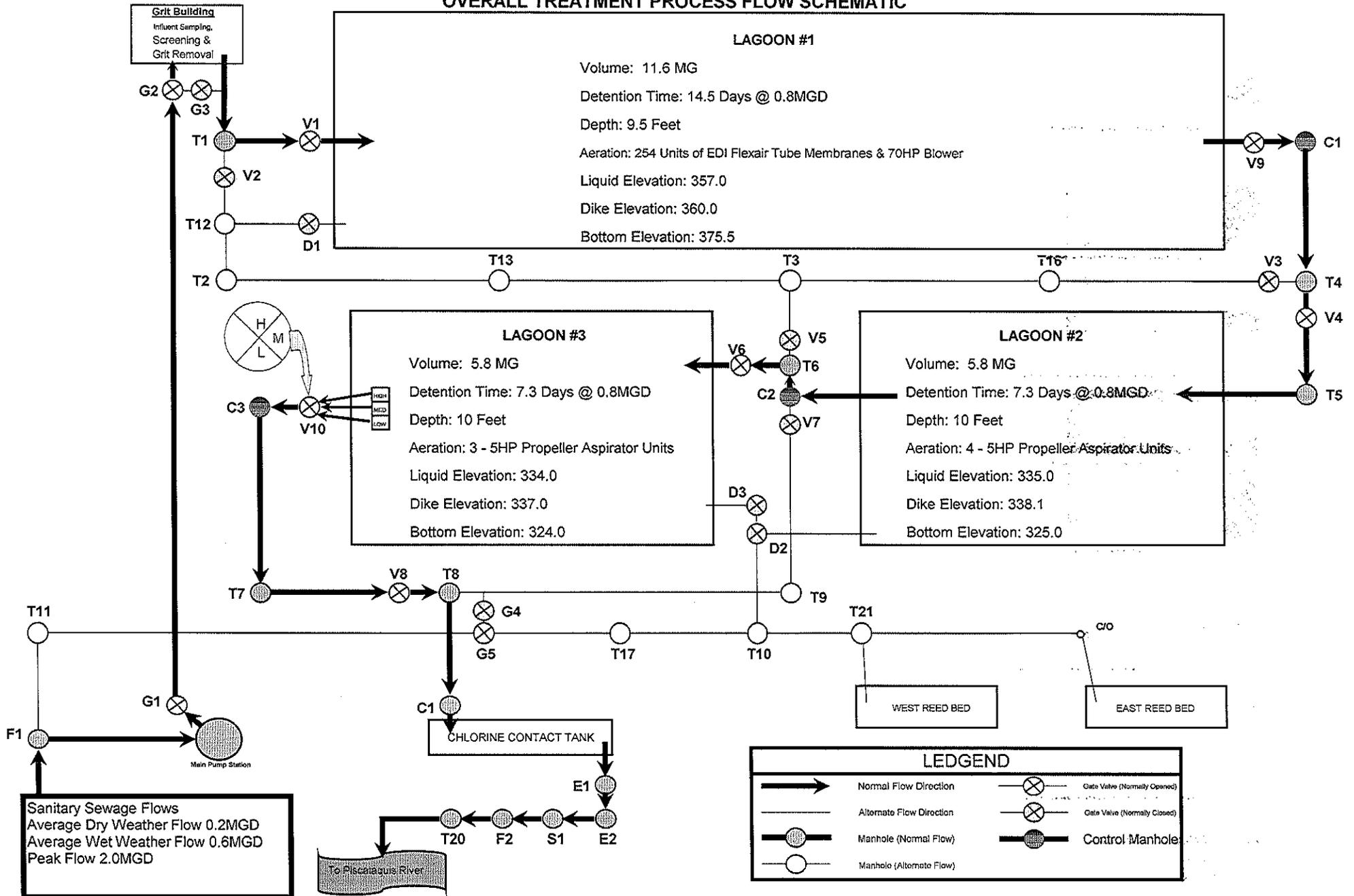
ATTACHMENT A



DF WWT FACILITY

ATTACHMENT B

**FIGURE 1-1
OVERALL TREATMENT PROCESS FLOW SCHEMATIC**



ATTACHMENT C

11/10/2014

WET TEST REPORT

Data for tests conducted for the period

10/Nov/2009 - 10/Nov/2014



DOVER-FOXCROFT

NPDES= ME010050

Effluent Limit: Acute (%) = 9.314

Chronic (%) = 5.299

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	100	12/07/2010	9.314		
TROUT	A_NOEL	100	09/14/2011	9.314		
TROUT	A_NOEL	50	02/27/2012	9.314		
TROUT	A_NOEL	50	06/10/2013	9.314		
TROUT	A_NOEL	100	02/04/2014	9.314		
TROUT	A_NOEL	100	07/14/2014	9.314		
TROUT	A_NOEL	100	09/16/2014	9.314		
TROUT	C_NOEL	50	12/07/2010	5.299		
TROUT	C_NOEL	100	09/14/2011	5.299		
TROUT	C_NOEL	10	02/27/2012	5.299		
TROUT	C_NOEL	5.32	06/10/2013	5.299		
TROUT	C_NOEL	50	02/04/2014	5.299		
TROUT	C_NOEL	100	07/14/2014	5.299		
TROUT	C_NOEL	100	09/16/2014	5.299		
WATER FLEA	A_NOEL	100	09/14/2011	9.314		
WATER FLEA	A_NOEL	100	02/27/2012	9.314		
WATER FLEA	A_NOEL	100	06/10/2013	9.314		
WATER FLEA	A_NOEL	100	02/04/2014	9.314		
WATER FLEA	A_NOEL	100	07/14/2014	9.314		
WATER FLEA	A_NOEL	100	09/16/2014	9.314		
WATER FLEA	C_NOEL	100	09/14/2011	5.299		
WATER FLEA	C_NOEL	50	02/27/2012	5.299		
WATER FLEA	C_NOEL	50	06/10/2013	5.299		
WATER FLEA	C_NOEL	50	02/04/2014	5.299		
WATER FLEA	C_NOEL	100	07/14/2014	5.299		
WATER FLEA	C_NOEL	10	09/16/2014	5.299		

ATTACHMENT D

11/10/2014

PRIORITY POLLUTANT DATA SUMMARY

Date Range: 10/Nov/2009 - 10/Nov/2014



Facility Name: DOVER-FOXCROFT

NPDES: ME0100501

Test Date	Monthly (Flow MGD)	Daily	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
12/14/2009	0.27	0.27	3	3	0	0	0	0	0	F	0
12/07/2010	0.35	0.35	19	10	0	0	0	9	0	F	0
03/03/2011	0.50	0.11	2	2	0	0	0	0	0	F	0
06/08/2011	0.34	0.62	3	2	0	0	0	1	0	F	0
09/14/2011	0.22	0.15	21	10	0	0	0	11	0	F	0
12/13/2011	0.25	0.22	3	2	0	0	0	1	0	F	0
02/27/2012	0.17	0.17	21	10	0	0	0	11	0	F	0
05/15/2012	0.35	0.32	2	2	0	0	0	0	0	F	0
07/17/2012	0.29	0.21	3	2	0	0	0	1	0	F	0
09/18/2012	0.21	0.16	1	0	0	0	0	1	0	F	0
11/07/2012	0.11	0.11	2	2	0	0	0	0	0	F	0
01/15/2013	0.18	0.18	2	2	0	0	0	0	0	F	0
06/08/2013	NR	NR	1	1	0	0	0	0	0	F	0

Key:

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

11/10/2014

PRIORITY POLLUTANT DATA SUMMARY



Date Range: 10/Nov/2009 - 10/Nov/2014

Facility Name: **DOVER-FOXCROFT**

NPDES: **ME0100501**

Test Date	Monthly (Flow MGD)	Daily	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
06/10/2013	0.39	0.49	21	10	0	0	0	11	0	F	0
08/14/2013	0.34	0.16	3	2	0	0	0	1	0	F	0
12/03/2013	0.27	0.55	2	2	0	0	0	0	0	F	0
02/04/2014	0.19	0.25	21	10	0	0	0	11	0	F	0
07/14/2014	0.09	0.04	134	14	28	45	25	11	11	F	0
08/27/2014	NR	NR	1	0	0	1	0	0	0	F	0
09/16/2014	0.18	0.14	21	10	0	0	0	11	0	F	0

Key:

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

11/10/2014

FACILITY PRIORITY POLLUTANT DATA REPORT

Data Date Range: 10/Nov/2009-10/Nov/2014



Facility name: DOVER-FOXCROFT

Permit Number: ME0100501

Parameter: AMMONIA

Test date	Result (ug/l)	Lsthan
12/07/2010	24500.000	N
06/08/2011	35700.000	N
09/14/2011	130.000	N
12/13/2011	7800.000	N
02/27/2012	28000.000	N
07/17/2012	390.000	N
09/18/2012	10700.000	N
06/10/2013	25700.000	N
08/14/2013	280.000	N
02/04/2014	31000.000	N
07/14/2014	144.000	N
09/16/2014	1452.000	N

Parameter: COPPER

Test date	Result (ug/l)	Lsthan
12/14/2009	8.000	N
12/07/2010	5.000	N
03/03/2011	13.000	N
06/08/2011	6.600	N
09/14/2011	4.000	N
12/13/2011	5.000	N
02/27/2012	14.000	N
05/15/2012	4.000	N
07/17/2012	3.000	Y
11/07/2012	5.410	N
01/15/2013	6.310	N
06/10/2013	3.730	N
08/14/2013	3.000	Y
12/03/2013	4.630	N
02/04/2014	11.900	N
07/14/2014	3.000	Y
09/16/2014	3.000	Y

ATTACHMENT E

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMORANDUM

DATE: October 2008

TO: Interested Parties

FROM: Dennis Merrill, DEP

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

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

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

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

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

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

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

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

Maine Department of Environmental Protection

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

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

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

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

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

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

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

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

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

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

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

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

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

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

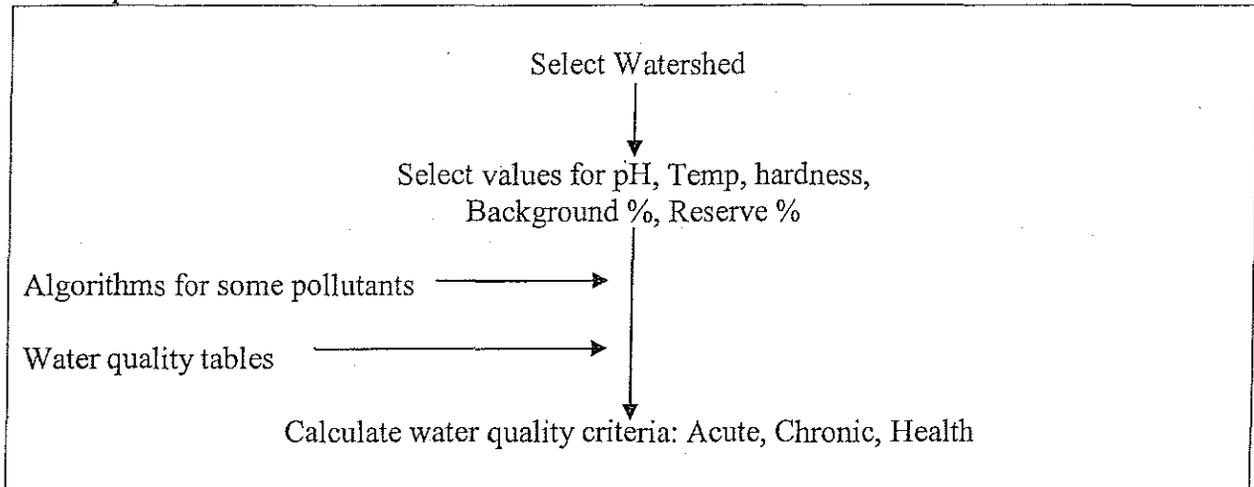
Segment allocation. One of three ways of developing an *allocation*. The amount is set by multiplying a facility's *historical discharge percentage* for a specific pollutant by the *assimilative capacity* for that pollutant and criterion. A facility will have different allocation percentages for each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

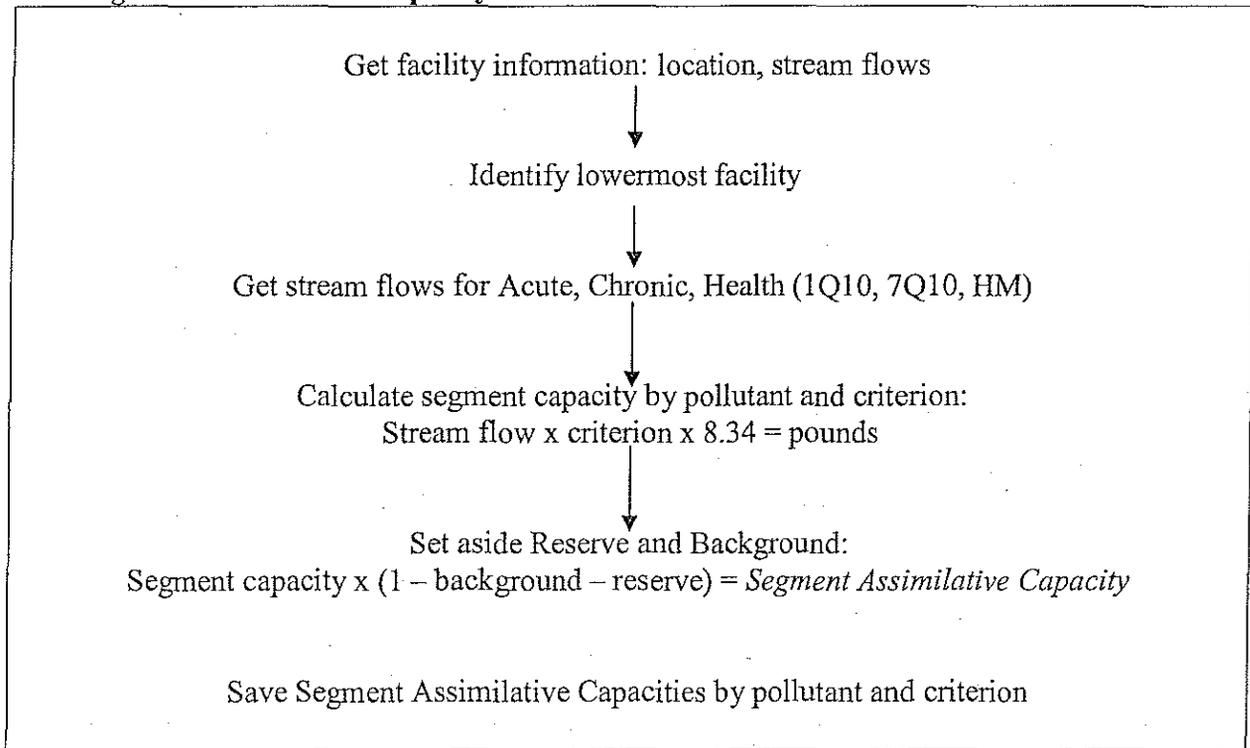
Water quality criteria. Standards for acceptable in-stream or ambient levels of pollutants. These are established in the Department's Chapter 584 and are expressed as concentrations in ug/L. There may be separate standards for acute and chronic protection aquatic life and/or human health. Each criterion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

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

I. Preparation

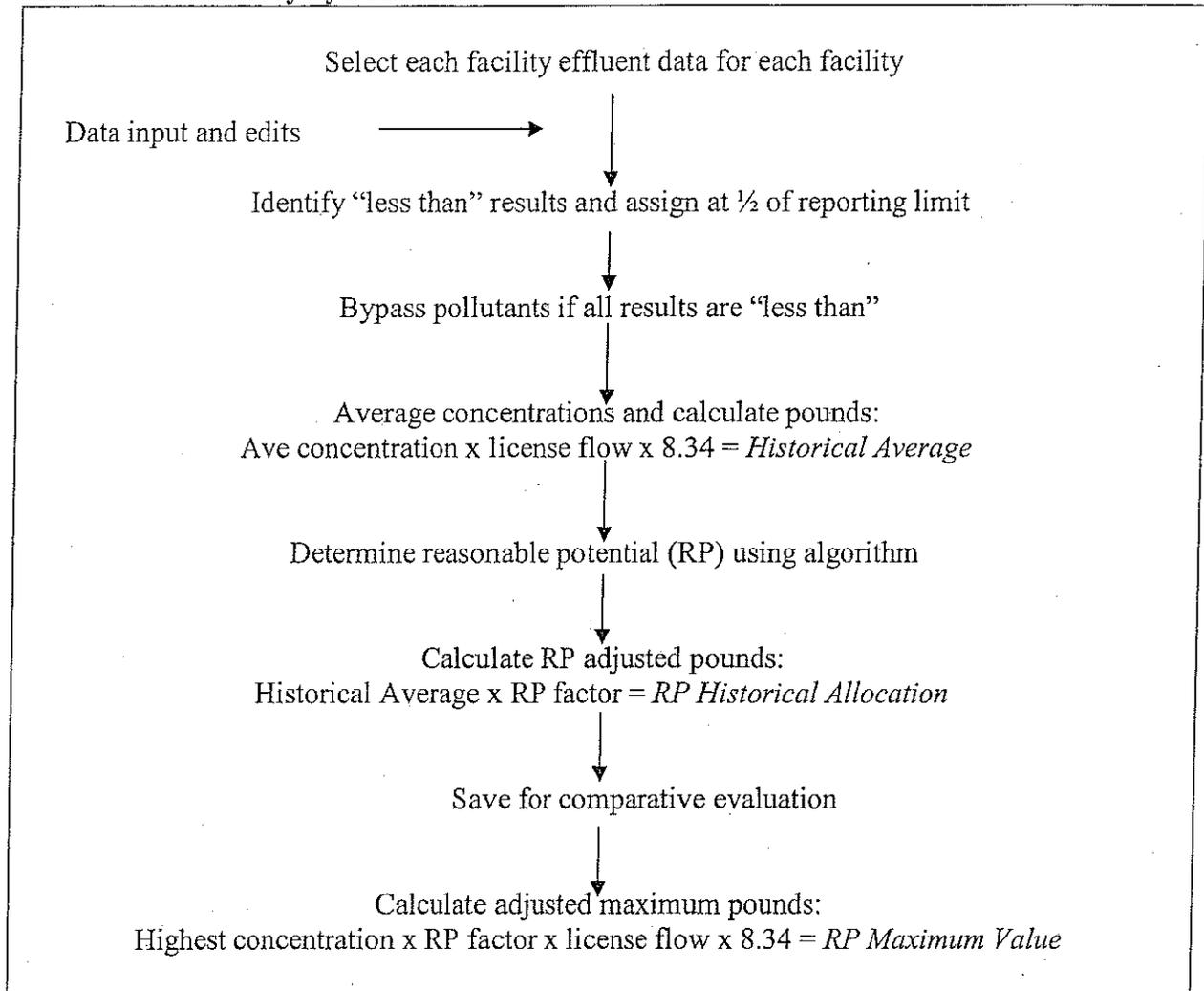


II. Segment Assimilative Capacity

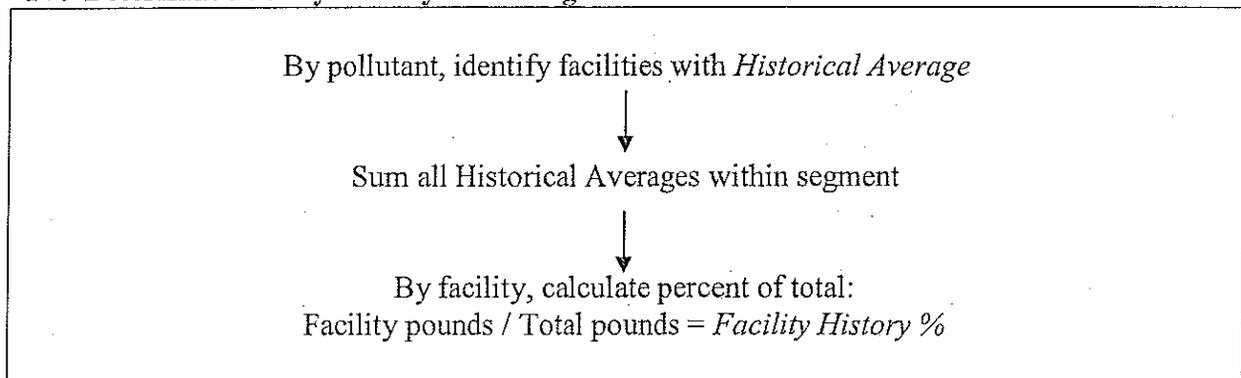


Maine Department of Environmental Protection
General Processing Steps in "DeTox"

III. Evaluate History by Pollutant

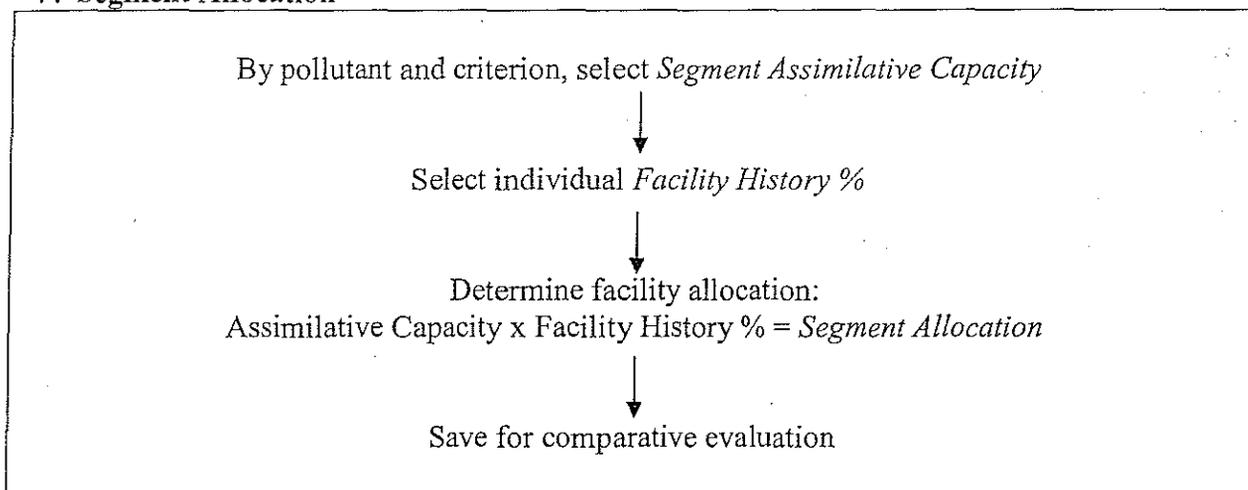


IV. Determine Facility History Percentage

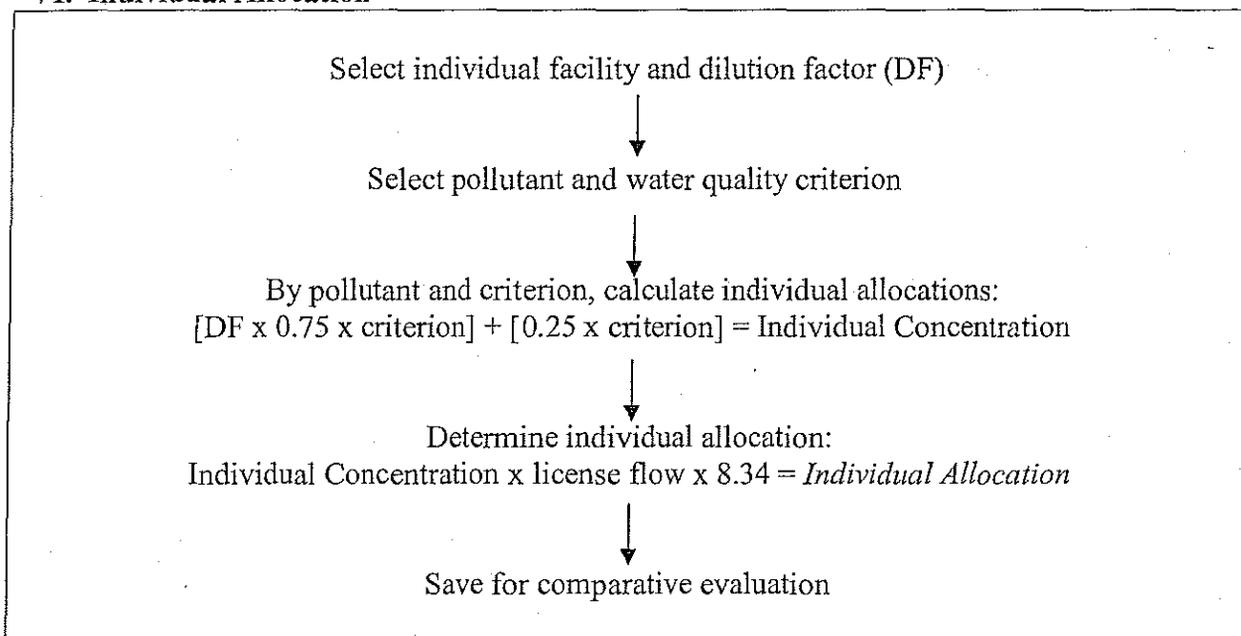


Maine Department of Environmental Protection
General Processing Steps in "DeTox"

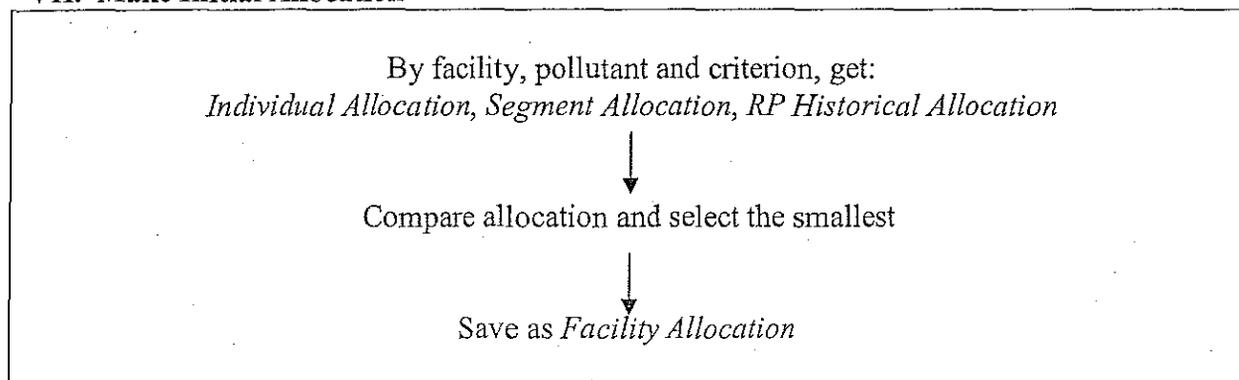
V. Segment Allocation



VI. Individual Allocation

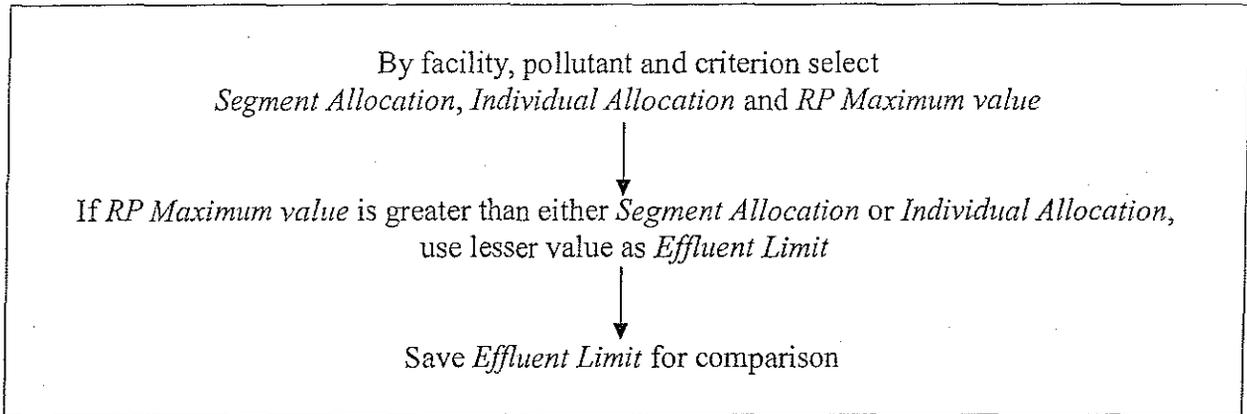


VII. Make Initial Allocation

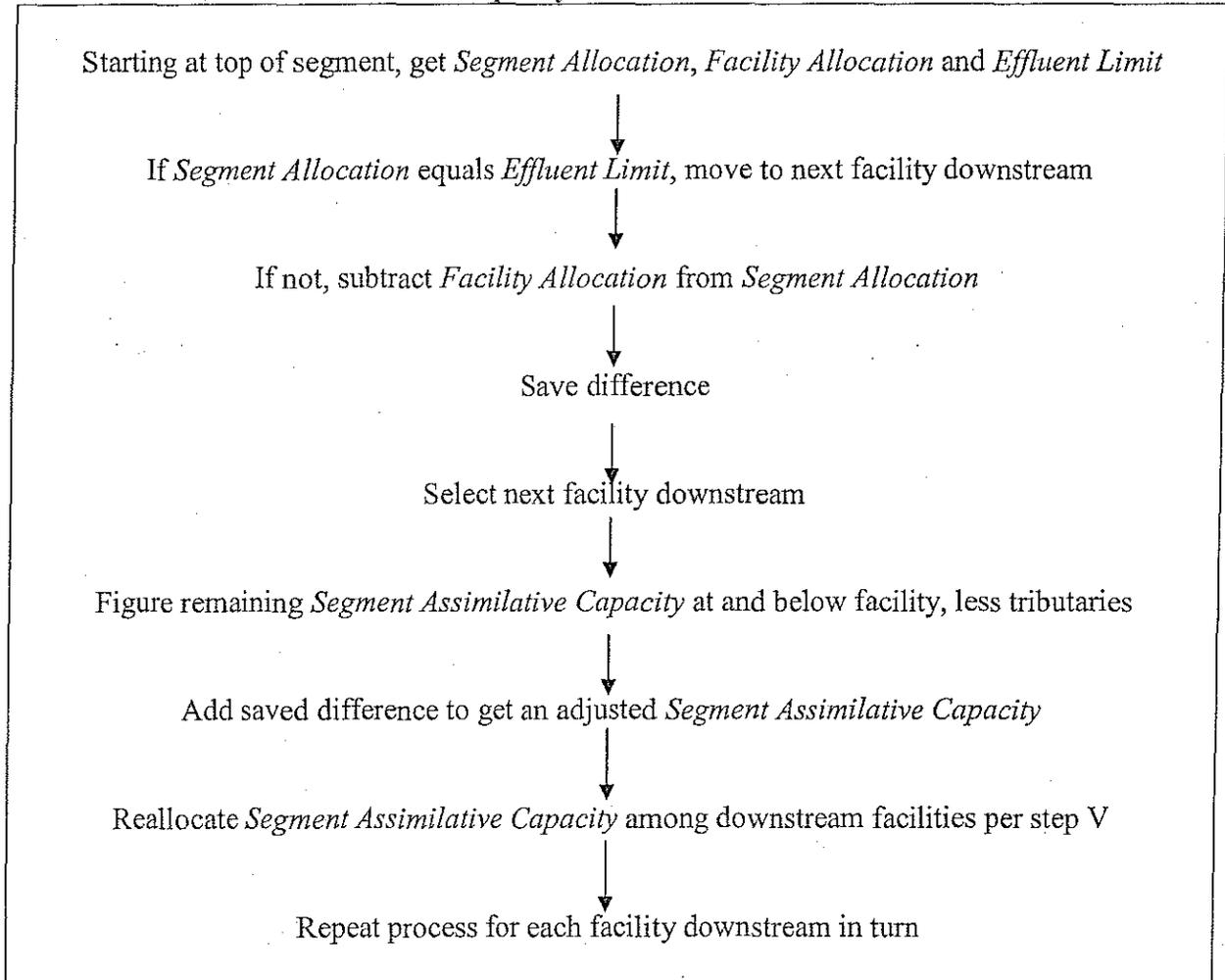


Maine Department of Environmental Protection
General Processing Steps in "DeTox"

VIII. Evaluate Need for Effluent Limits



IX. Reallocation of Assimilative Capacity



ATTACHMENT F



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 530.2(D)(4) CERTIFICATION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
Commissioner

MEPDES# _____ Facility Name _____

Since the effective date of your permit, have there been;		NO	YES Describe in comments section
1	Increases in the number, types, and flows of industrial, commercial, or domestic discharges to the facility that in the judgment of the Department may cause the receiving water to become toxic?	<input type="checkbox"/>	<input type="checkbox"/>
2	Changes in the condition or operations of the facility that may increase the toxicity of the discharge?	<input type="checkbox"/>	<input type="checkbox"/>
3	Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge?	<input type="checkbox"/>	<input type="checkbox"/>
4	Increases in the type or volume of hauled wastes accepted by the facility?	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS:

Name (printed): _____

Signature: _____ Date: _____

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

This form may be used to meet the requirements of Chapter 530.2(D)(4). This Chapter requires all dischargers having waived or reduced toxic testing to file a statement with the Department describing changes to the waste being contributed to their system as outlined above. As an alternative, the discharger may submit a signed letter containing the same information.

Scheduled Toxicity Testing for the next calendar year

Test Conducted	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
WET Testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Priority Pollutant Testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analytical Chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other toxic parameters ¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please place an "X" in each of the boxes that apply to when you will be conducting any one of the three test types during the next calendar year.

¹ This only applies to parameters where testing is required at a rate less frequently than quarterly.

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