STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

JAMES P. BROOKS
ACTING COMMISSIONER

May 26, 2011

VIA ELECTRONIC MAIL

Mr. Bradley Moore
City of Bangor
760 Lower Main Street
Bangor, ME 04401
brad.moore@bangormaine.gov

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100781
Maine Waste Discharge License (WDL) Application #W001041-5M-F-R
Final Permit/WDL – City of Bangor Wastewater Treatment Facility

Dear Mr. Moore:

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

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

If you have any questions regarding this matter, please feel free to contact me at (207) 287-7658 or at phyllis.a.rand@maine.gov.

Sincerely,

Phyllis Arnold Rand

Phyllis Arnold Rand
Division of Water Quality Management
Bureau of Land and Water Quality

Enclosure

Stakeholder Service List
Sandy Mojica, USEPA Alex Rosenberg, USEPA Lori Mitchell, DEP/DMU

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PORTLAND
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PRESQUE ISLE, MAINE 04769-2094
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– 3/31/11 –

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

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF BANGOR		)	MAINE POLLUTANT DISCHARGE
BANGOR, PENOBSCOT COUNTY, MAINE		)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS		)	AND
ME0100781		)	WASTE DISCHARGE LICENSE
W001041-5M-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 ("Department," hereinafter) has considered the application of the CITY OF BANGOR ("permittee," hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

Application: The permittee has applied for renewal of Waste Discharge License (WDL) # W001041-5M-E-R, which was issued on February 12, 2002 and expired on February 12, 2007. The WDL approved the discharge of 18.0 million gallons per day (MGD) (monthly average) of secondary treated municipal waste waters, an unspecified quantity of primary treatment waste water from a generic bypass structure to the Penobscot River, Class B, and untreated sanitary/storm water from twelve (12) combined sewer overflow (CSO) structures to the Penobscot River, Class B, and Kenduskeag Stream, Class C. It is noted the segment of the Penobscot River where discharges occur was reclassified to a Class B waterway in calendar year 1999.

MODIFICATION REQUESTED

The permittee is requesting relicensing of CSO #020 (Carr Brook) due to increased flows and overflows from manholes during wet weather events.

MODIFICATION GRANTED

The Department is granting the relicensing of CSO #020 (Carr Brook).

PERMIT SUMMARY

This permitting action is <u>similar to</u> the 2/12/02 permitting action in that it is:

1. Carrying forward the monthly average flow limit of 18.0 MGD.

2. Carrying forward the monthly average and weekly average mass and concentration limits for biochemical oxygen demand (BOD5) and total suspended solids (TSS) (Outfall #001A).

3. Carrying forward the default screening level monitoring requirements for whole effluent toxicity (WET), analytical chemistry and priority pollutant testing.

This permitting action is <u>different from</u> the 2/12/02 permitting action in that it is:

4. Revising the sampling location for Outfall #001B.

5. Eliminating numerical discharge limitations for total cadmium per *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 12, 2005).

6. Eliminating numerical discharge limitations for total silver per 06-096 CMR 530.

7. Reducing monitoring frequency requirements for total cadmium and total silver per 06-096 CMR 530.

8. Establishing monthly average water quality based mass and concentration limits for total copper and total lead.

9. Establishing monthly average water quality based mass and concentration limits for inorganic arsenic.

10. Establishing monitoring requirements for total arsenic based on *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005).

11. Revising the acute and chronic flows based on flow data updated in March 2003.

12. Establishing seasonal (June 1 – September 30) monitoring requirements for total phosphorus.

13. Eliminating WET monitoring requirements for the fathead minnow (*Pimephales promelas*).

14. Establishing default surveillance-level WET testing requirements and permit limits for the water flea (*Ceriodaphnia dubia*).

15. Eliminating four (4) permitted combined sewer overflow (CSO) outfalls based on work completed in Phase 1 of the permittee's *CSO Long-term Control Plan*.

16. Re-permitting CSO #020 (Carr Brook).

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated May 26, 2011 and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

Secondary and Primary Treated Waste Waters:

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

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

3. The provisions of the State's antidegradation policy, 38 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 national resource, that water quality will be maintained and protected;

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

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

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

4. The discharge(s) (including the nine remaining CSOs) will be subject to effluent limitations and terms and conditions that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the CITY OF BANGOR to discharge up to a monthly average flow of 18.0 MILLION GALLONS PER DAY of secondary treated sanitary waste waters and an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from a publicly owned treatment works to the Penobscot River, Class B, in Bangor, Maine, and untreated combined sewer overflows from nine (9) combined sewer overflows to the Kenduskeag Stream, Class C and the Penobscot River, Class B, in Bangor, Maine. The discharges shall be subject to the attached conditions and all applicable standards and regulations:

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

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

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

This permit is digitally signed by Teco Brown on behalf of Acting Commmissioner James P. Brooks. It is digitally signed pursuant to 10 M.R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date.
2011.05.26 16:01:51 -04'00'

Date of initial receipt of application July 12, 2006
Date of application acceptance July 12, 2006

This Order prepared by Phyllis Arnold Rand, BUREAU OF LAND & WATER QUALITY
ME0100781 2011

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning the effective date of this permit, the permittee is authorized to discharge secondary treated waste waters to the Penobscot River. Such treated waste water discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values bracketed in the table below and on the following pages are code numbers that Department personnel utilize to code Discharge Monitoring Reports.

Secondary Treated Waste Water Outfall #001A

Effluent Characteristic	**Discharge Limitations**						**Monitoring Requirements**	
	Monthly Average lbs/day	**Weekly Average** lbs/day	**Daily Maximum** lbs/day	**Monthly Average** as specified	**Weekly Average** as specified	**Daily Maximum** as specified	**Measurement Frequency** as specified	**Sample Type** as specified
Flow *[50050]*	---	---	---	18.0 MGD *[03]*	---	Report (MGD) *[03]*	Continuous *[99/99]*	Recorder *[RC]*
Biochemical Oxygen Demand (BOD_5) *[00310]*	4,504 #/day *[26]*	6,755 #/day *[26]*	Report #/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	Composite *[24]*
BOD5 % Removal (1) *[81010]*	---	---	---	85% ***[23]***	---	---	1/Month *[01/30]*	Calculate ***[CA]***
Total Suspended Solids (TSS) *[00530]*	4,504 #/day *[26]*	6,755 #/day *[26]*	Report #/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	Composite *[24]*
TSS % Removal (1) *[81011]*	---	---	---	85% ***[23]***	---	---	1/Month *[01/30]*	Calculate ***[CA]***
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	1/Day *[01/01]*	Grab *[GR]*
E. coli Bacteria(2) *(May 15 – September 30)* *[31616]*	---	---	---	64/100 mL(3) *[13]*	---	427/100 mL *[13]*	5/Week *[05/07]*	Grab *[GR]*
Total Residual Chlorine (4a) *[50060]*	---	---	---	0.1 mg/L *[19]*	---	0.3 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	---	---	6.0-9.0 *[12]*	1/Day *[01/01]*	Grab *[GR]*
Total Phosphorus(4b) *(June 1 – September 30)* *[00665]*	Report lbs/day *[26]*	---	Report lbs/day *[26]*	Report mg/L *[19]*		Report mg/L *[19]*	2/Month *[02/30]*	Composite *[24]*

SPECIAL CONDITIONS

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

2. *SURVEILLANCE LEVEL TESTING* – Beginning upon permit issuance and lasting through twelve months prior to permit expiration.

Secondary Treated Waste Water Outfall #001A

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)[5]								
A-NOEL *Ceriodaphnia dubia* *[TDA3B]*	---	---	---	---	---	3.7 % *[23]*	1/Year *[01/YR]*	Composite *[24]*
C-NOEL *Ceriodaphnia dubia* *[TBP3B]*	---	---	---	---	---	0.86% *[23]*	1/Year *[01/YR]*	Composite *[24]*
Arsenic (Total) [8] *(Upon permit issuance)* *[01002]*	---	---	---	Report µg/L *[28]*	---	---	1/Year *[01/YR]*	24-Hour Composite *[24]*
Arsenic (Inorganic) [8,9] *(Upon test method approval)* *[01252]*	0.27 lbs/day *[26]*	---	---	1.8 µg/L *[28]*	---	---	1/Year *[01/YR]*	24-Hour Composite *[24]*
Copper (Total) *[01042]*	7.9 lbs/day *[26]*	---	---	106 µg/L *[28]*	---	---	1/Year *[01/YR]*	24-Hour Composite *[24]*
Lead (Total) *[01051]*	0.4 lbs/day *[26]*	---	---	5.4 µg/L *[28]*	---	---	1/Year *[01/YR]*	24-Hour Composite *[24]*

SPECIAL CONDITIONS

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

3. *SCREENING LEVEL TESTING* – Beginning 12 months prior to permit expiration and every five years thereafter.

Secondary Treated Waste Water Outfall #001A

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) (5)								
A-NOEL								
Ceriodaphnia dubia [TDA3B]	---	---	---	---	---	3.7 % [23]	1Year [01/YR]	Composite [24]
Salvelinus fontinalis [TDA6F]	---	---	---	---	---	Report % [23]	1Year [01/YR]	Composite [24]
C-NOEL								
Ceriodaphnia dubia [TBP3B]	---	---	---	---	---	0.86 % [23]	1Year [01/YR]	Composite [24]
Salvelinus fontinalis [TBQ6F]	---	---	---	---	---	Report % [23]	1Year [01/YR]	Composite [24]
Analytical chemistry (6,7) [51477]	---	---	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/ Grab [24]
Priority Pollutants (7) [50008]	---	---	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/ Grab [24]

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

4. During the period beginning the effective date of the permit, the permittee is authorized to discharge **primary treated and disinfected waste waters** from **Outfall #001B**, when the influent to the waste water treatment facility exceeds 30 MGD. Waste waters from this internal outfall are then conveyed to the receiving water via Outfall 001A. Such discharges may only occur in response to wet weather events or snowmelt and in accordance with the approved High Flow Management Plan dated 12/03/10, and shall be limited and monitored as specified below:

Primary Treated Waste Water Outfall #001B

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Monthly Average as specified	**Daily Maximum** as specified	**Monthly Average** As specified	**Daily Maximum** as specified	**Measurement Frequency** as specified	**Sample Type** as specified
Flow, MGD *[50050]*	Report (Total MGD) *[03]*	Report (MGD) *[03]*	---	---	Continuous*[CN]*	Recorder*[RC]*
Surface Overflow Rate(13) *[50997]*	---	Report (gpd/sf) *[07]*	---	---	1/Discharge Day(14) *[01/DS]*	Calculate*[CA}*
Overflow Use, Occurrences(15) *[74062]*	---	---	Report (# of days) *[93]*	---	1/Discharge Day(14) *[01/DS]*	Record Total*[RT}*
BOD5 % Removal (10) *[81010]*	Report (%)*[23]*	---	---	Report (mg/L) *[19]*	1/Discharge Day(14) *[01/DS]*	Composite*[24]*
TSS % Removal (10) *[81011]*	Report (%)*[23]*	---	---	Report (mg/L) *[19]*	1/Discharge Day(14) *[01/DS]*	Composite*[24]*
Settleable Solids*[00545]*	---	---	---	Report (ml/L) *[25]*	1/Discharge Day(14) *[01/DS]*	Grab(12) *[GR]*
E.coli Bacteria(2) *(May 15 – Sept 30) [31633]*	---	---	---	Report #col/100 mL *[25]*	1/Discharge Day(14) *[01/DS]*	Grab(12) *[GR]*
Total Residual Chlorine*[50060]* (4)	---	---	---	Report mg/L*[19]*	1/Discharge Day(14) *[01/DS]*	Grab(12) *[GR]*
pH (Standard Units) *[00400]*	---	---	---	Report (SU)*[19]*	1/Discharge Day(14) *[01/DS]*	Grab(12) *[GR]*

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

5. During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to discharge **primary plus secondary treated waste waters from Administrative Outfall 001C**. Such discharges may only occur in response to wet weather events or snowmelt and in accordance with the approved High Flow Management Plan dated 6/22/01, and shall be limited and monitored as specified below:

Primary Plus Secondary Treated Waste Waters Administrative Outfall #001C

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	---	Report MGD*[03]*	---	---	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*
Biochemical Oxygen Demand (11) (BOD_5) *[00310]*	---	Report #/day *[26]*	---	Report mg/L *[19]*	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*
BOD5 % Removal (1,11) *[81010]*	---	---	Report % ***[23]***	---	1/Discharge Day(14) *[01/DS]*	Calculate ***[CA]***
Total Suspended Solids (TSS) (11) *[00530]*	---	Report #/day *[26]*	---	Report mg/L *[19]*	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*
TSS % Removal (1,11) *[81011]*	---	---	Report % ***[23]***	---	1/Discharge Day(14) *[01/DS]*	Calculate ***[CA]***
Settleable Solids(11) *[00545]*	---	---	---	Report ml/L *[25]*	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*
E. coli. Bacteria(2,11) *[31616]*	---	---	---	427/100 ml *[13]*	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*
Total Residual Chlorine (4,11) *[50060]*	---	---	---	1.0 mg/L *[19]*	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*
pH (Std. Units) (11) *[00400]*	---	---	---	6.0-9.0 *[12]*	1/Discharge Day(14) *[01/DS]*	Calculate *[CA]*

SPECIAL CONDITIONS

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

Footnotes:

Sampling Locations:

Effluent receiving secondary treatment (Outfall #001A) shall be sampled for BOD_5, TSS, WET testing, analytical chemistry and total residual chlorine at the drop box prior to discharge to the river. Sampling for pH, settleable solids and *E. coli* bacteria shall be at the influent end of the Parshall flume.

Effluent receiving primary treatment (Outfall #001B) shall be sampled for BOD_5, TSS, total residual chlorine, pH, settleable solids and *E. coli* bacteria and shall be collected immediately downstream from the effluent launders of Primary Clarifier #1.

Influent sampling for BOD_5 and TSS shall be sampled at the discharge of the main lift station prior to degritting.

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

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

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

SPECIAL CONDITIONS

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

Footnotes:

1. **Percent removal** – For secondary treated waste waters, the facility shall maintain a minimum of 85 percent removal of both BOD_5 and TSS. For both primary treated and secondary treated waste waters, the percent removal shall be based on a monthly average value calculated based on influent and effluent concentrations. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility shall report *"NODI-9"* on the monthly Discharge Monitoring Report.

2. ***E. coli*** **bacteria** - Limits are seasonal and apply between May 15 and September 30 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.

4a. **Total Residual Chlorine (TRC)** – Limitations and monitoring requirements are in effect anytime elemental chlorine or chlorine based compounds are utilized to disinfect the discharge(s). The permittee shall utilize an EPA-approved test method capable of bracketing the TRC limitations specified in this permitting action.

4b. **Total Phosphorus** – There shall be at least ten (10) days between sampling events. See **Attachment B** of this permit for a Department protocol for total phosphorus.

5. **Whole effluent toxicity (WET) testing** – Definitive WET testing is a multi-concentration testing event [a minimum of five dilutions bracketing the critical acute (modified acute) and chronic dilution of 3.7% and 0.86%, 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.

   a. Surveillance level testing – Beginning upon the effective date of this permit, the permittee shall conduct surveillance level WET testing on the water flea at a frequency of once per year (1/Year). Surveillance level testing for the brook trout has been waived pursuant to 06-096 CMR 530 Section D(3)(b).

   b. **Screening level testing** - Beginning 12 months prior to expiration of the permit and every five years thereafter, the permittee shall conduct screening level WET testing at a minimum frequency of once per year (1/Year) on the water flea and the brook trout.

SPECIAL CONDITIONS

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

Footnotes:

Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, the permittee may review the toxicity reports for up to 10 business days after receiving the test results from the laboratory conducting the testing before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical modified acute and chronic water quality thresholds of 3.7% and 0.86%, respectively. See **Attachment C** of this permit for a copy of the Department's WET report form.

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

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

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

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

6. **Analytical Chemistry** – Refers to a suite of chemical tests in **Attachment A** of the permit. Screening level testing shall be conducted once per quarter (1/Quarter) for four consecutive calendar quarters beginning 12 months prior to expiration of the permit and every five years thereafter. With the exceptions of total arsenic, total copper and total lead, surveillance level analytical chemistry testing is waived pursuant to 06-096 CMR 530 (D)(3)(b).

7. **Priority pollutant testing –** Priority pollutant testing refers to analysis for levels of priority pollutants listed in 06-096 CMR 525 (4)(VI). Screening level testing shall be conducted once per year (1/Year) beginning 12 months prior to expiration of the permit and every five years thereafter. Surveillance level priority pollutant testing is waived pursuant to 06-096 CMR 530 (2)(D).

SPECIAL CONDITIONS

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

Footnotes:

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.

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 06-096 CMR 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

8. **Arsenic (Total)** – **Beginning upon issuance of this permit and lasting through a date on which the USEPA approves a test method for inorganic arsenic**, the permittee shall sample and analyze the discharge from the facility for total arsenic. The Department's most current reporting limit (RL) for total arsenic is 5 ug/L but may be subject to revision during the term of this permit. All detectable analytical test results shall be reported to the Department including results which are detected below the Department's most current RL at the time of sampling and reporting. Only the detectable results greater than the total arsenic threshold of 3.6 ug/L or the Department's RL at the time (whichever is higher) will be considered as a possible exceedence of the water quality criteria for inorganic arsenic. If a test result is determined to be a possible exceedence, the permittee shall submit a toxicity reduction evaluation (TRE) to the Department for review and approval within 45 days of receiving the test result of concern from the laboratory.

9. **Arsenic (Inorganic)** – The limitations and monitoring requirements are not in effect until the USEPA approves of a test method for inorganic arsenic. Once effective, compliance will be based on a 12-month rolling average basis beginning 12 months after the effective date of the limits. Following USEPA approval of a test method for inorganic arsenic and based on recent available data, the permittee may request that the Department reopen this permit in accordance with Special Condition Q, *Reopening of Permit For Modifications*, of this permit to establish a schedule of compliance for imposition of the numeric inorganic arsenic limitations.

SPECIAL CONDITIONS

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

Footnotes:

10. The permittee shall analyze both the influent and effluent of the primary clarifiers for BOD5 and TSS during the discharge of primary treated waste waters from Outfall 001B and report the percent (%) removal on the monthly Discharge Monitoring Report (DMR). As an attachment to the DMR, the permittee shall report the individual BOD5 and TSS test results used to calculate the percent removal rates reported.

    For facilities whose normal staffing hours do not include weekends, or whose weekend staffing time is limited to minimum facility oversight (i.e. permit required daily grab sample analysis, setting up composite samplers, or performing routine observations of treatment plant functions), bypass BOD_5/TSS composite samples collected after one hour before the end of normal staffing hours on Friday through 22 hours before normal staffing time on Monday may be held beyond the maximum holding time of twenty-four hours and analyzed as soon as possible during staffed hours on the Monday following the weekend. Composite samples with extended holding times must remain refrigerated until analyzed, and must conform to any other bypass sampling procedures as defined in this document. Any reported extended holding time composite sample results must be flagged to distinguish them from samples that were analyzed within the proper holding time.

11. **Combined waste waters** – The permittee is not required to directly monitor the combined waste streams (primary plus secondary) during wet weather events when Outfall #001B is active. During wet weather events when the primary treated waste water is being discharged from Outfall #001B and combining with the secondary treated waste water prior to discharge, the permittee has the option to calculate the discharge characteristics of the final effluent discharged to the receiving water. The mass balance calculation shall use the primary treated sampling data from Outfall #001B and the secondary treated sampling data from Outfall #001A. All calculations and data utilized in the calculations must be submitted to the Department with the applicable monthly Discharge Monitoring Report.

12. **Grab samples** for settleable solids, *E. coli* bacteria, total residual chlorine and pH are not required to be collected when Outfall #001B is active for a single continuous discharge event lasting less than 60 minutes or during intermittent discharge events over a course of a 24 hour period totaling less than 120 minutes. Sampling is only required if said event(s) occur(s) between the hours of 6:00 AM – 4:30 PM, Monday through Friday, and 6:00 AM – 11:00 AM, holidays and weekends.

SPECIAL CONDITIONS

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

Footnotes:

13. **Surface Overflow Rate** – For the purposes of this permitting action is defined as the average hourly rate per overflow occurrence in a discharge day. The licensee should provide this information to establish data on the effectiveness of peak flows receiving primary treatment only.

14. **Discharge Day** - A discharge day is defined as a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

15. **Overflow occurrence** – An overflow occurrence is defined as the period of time between initiation of flow from the primary bypass and ceasing discharge from the primary bypass. Overflow occurrences are reported in discharge days.

    Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified. One composite sample for BOD5 and total suspended solids shall be collected per discharge day and shall be of flow proportioned from each intermittent overflow during that 24-hour period.

    For overflow occurrences exceeding one day in duration, sampling shall be performed each day of the event according to the measurement frequency specified. For example, if an overflow occurs for all or part of three discharge days, the permittee shall take three composite samples for BOD5 and TSS, initiating samples at the start of the overflow and each subsequent discharge day thereafter and terminating samples at the end of the discharge day or the end of the overflow occurrence. Samples shall be flow proportioned.

B. NARRATIVE EFFLUENT LIMITATIONS

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

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

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

SPECIAL CONDITIONS

C. TREATMENT PLANT OPERATOR

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

D. 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.

E. 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.

F. 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 July 12, 2006; 2) the terms and conditions of this permit; and 3) Outfalls #001A , #001B and nine (9) combined sewer overflow (CSO) outfalls listed in Special Condition N of this permit. 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), *Bypasses*, of this permit.

SPECIAL CONDITIONS

G. SCHEDULE OF COMPLIANCE – INORGANIC ARSENIC

This permitting action is establishing a schedule of compliance for the monthly average mass and concentration limits for inorganic arsenic as follows:

Beginning upon issuance of this permit and lasting through EPA approval of a test method for inorganic arsenic, the permittee shall conduct 1/Year testing for total arsenic and report the mass and concentration on the applicable DMRs.

Beginning 12 months after EPA approval of a test method for inorganic arsenic, the permittee shall be in compliance with the 12-month rolling average mass and concentration limits of 0.27 lbs/day and 3.6 ug/L respectively, for inorganic arsenic.

Note: The applicable ambient water quality criteria for arsenic are currently undergoing review by the Department and other regulatory authorities. Should the criteria be changed during the term of this permit, the permit may be reopened and amended accordingly.

H. AMBIENT WATER QUALITY MONITORING

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

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

By December 31 of each calendar year, the permittee shall provide the Department with a certification describing any of the following that have occurred since the effective date of this permit ***[PCS Code 95799]***:

(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.

SPECIAL CONDITIONS

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

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

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

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

The Department reserves the right to reinstate annual (surveillance level) testing or other toxicity testing if new information becomes available that indicates the discharge may cause or have a reasonable potential to cause exceedences of ambient water quality criteria/thresholds. See **Attachment F** of the Fact Sheet for an acceptable certification form to satisfy this Special Condition.

J. MERCURY

All mercury sampling (4/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 D,** *Effluent Mercury Test Report*, of this permit for the Department's form for reporting mercury test results.

K. DISPOSAL OF TRANSPORTED WASTES IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce to the treatment process or solids handling stream **a maximum of 20,000 gallons per day [and a monthly total of 600,000 gallons]** of transported wastes, subject to the following terms and conditions:

1. "Transported wastes" means any liquid non-hazardous waste delivered to a wastewater treatment facility by a truck or other similar conveyance that has different chemical constituents or a greater strength than the influent described on the facility's application for a waste discharge license. Such wastes may include, but are not limited to septage, industrial wastes or other wastes to which chemicals in quantities potentially harmful to the treatment facility or receiving water have been added.

SPECIAL CONDITIONS

K. DISPOSAL OF TRANSPORTED WASTES IN WASTE WATER TREATMENT FACILITY (cont'd)

2. The character and handling of all transported wastes received must be consistent with the information and management plans provided in application materials submitted to the Department.

3. At no time shall the addition of transported wastes cause or contribute to effluent quality violations. Transported wastes may not cause an upset of or pass through the treatment process or have any adverse impact on the sludge disposal practices of the wastewater treatment facility. Wastes that contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation must be refused. Odors and traffic from the handling of transported wastes may not result in adverse impacts to the surrounding community. If any adverse effects exist, the receipt or introduction of transported wastes into the treatment process or solids handling stream shall be suspended until there is no further risk of adverse effects.

4. The permittee shall maintain records for each load of transported wastes in a daily log which shall include at a minimum the following:

   (a) The date;
   (b) The volume of transported wastes received;
   (b) The source of the transported wastes;
   (d) The person transporting the transported wastes;
   (e) The results of inspections or testing conducted;
   (f) The volumes of transported wastes added to each treatment stream; and
   (g) The information in (a) through (d) for any transported wastes refused for acceptance.

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

5. The addition of transported wastes into the treatment process or solids handling stream shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of transported wastes into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.

6. Holding tank wastewater from domestic sources to which no chemicals in quantities potentially harmful to the treatment process have been added shall not be recorded as transported wastes but should be reported in the treatment facility's influent flow.

7. During wet weather events, transported wastes may be added to the treatment process or solids handling facilities only in accordance with a current High Flow Management Plan approved by the Department pursuant to Special Condition K that provides for full treatment of transported wastes without adverse impacts.

SPECIAL CONDITIONS

K. DISPOSAL OF TRANSPORTED WASTES IN WASTE WATER TREATMENT FACILITY (cont'd)

8. In consultation with the Department, chemical analysis is required prior to receiving transported wastes from new sources that are not of the same nature as wastes previously received. The analysis must be specific to the type of source and designed to identify concentrations of pollutants that may pass through, upset or otherwise interfere with the facility's operation.

9. Access to transported waste receiving facilities may be permitted only during the times specified in the application materials and under the control and supervision of the person responsible for the wastewater treatment facility or his/her designated representative.

10. The authorization in the Special Condition is subject to annual review and, with notice to the permittee and other interested parties of record, may be suspended or reduced by the Department as necessary to ensure full compliance with 06-096 CMR 555 and the terms and conditions of this permit.

L. HIGH FLOW MANAGEMENT PLAN

The permittee shall maintain a High 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. The 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.

M. OPERATION & MAINTENANCE (O&M) PLAN

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

By December 31 of each year, **and 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.

SPECIAL CONDITIONS

M. OPERATION & MAINTENANCE (O&M) PLAN (cont'd)

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.

N. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs)

On June 28, 1991, the USEPA, the U.S. Department of Justice, the State of Maine and City of Bangor entered into a Consent Decree superseding and incorporating the conditions of the June 30, 1987 Consent Decree and adding conditions to address combined sewer overflow control, including requirements for a CSO Facilities Plan and an implementation schedule. The permittee shall implement CSO control projects in accordance with the approved CSO Master Plan and implementation schedule. The CSO Master Plan entitled, *Final Draft Combined Sewer Overflow Facilities Plan for the City of Bangor*, dated December 1993, and the abatement project schedule was approved by the EPA on December 22, 1994. The Plan and schedule have been modified several times by mutual agreement with the USEPA and the Department including an updated plan and abatement schedule that was approved by the USEPA on September 24, 2001. The abatement schedule may be amended from time to time based on mutual agreements between the permittee, the USEPA and the Department. The permittee must notify the USEPA and the Department in writing prior to any proposed changes to the implementation schedule.

The permittee has completed the CSO Long-term Control Project in Phase 1 of their CSO Master Plan. The work completed during Phase 1 resulted in the removal of thirteen (13) CSOs: May Street (Outfall #004), Union Street (Outfall #005), Hancock Street (Outfall #008), State Street (Outfall #010), Mill Street#1 (Outfall #012), Mill Street#2 (Outfall #013), Everett Street (Outfall #014), Fourteenth Street (Outfall #015), Arctic Brook (Outfall #017), Blanchard Street (Outfall #018), Woodlawn (Outfall #022), Franklin Street (Outfall #024) and Olive Street (Outfall #025). The Olive, Hancock, May and Union Street CSOs discharged into the Penobscot River; the other eight discharged into the Kenduskeag Stream.

The Department is relicensing former CSO Outfall #020 (Carr Brook) as the permittee has determined that subsections of this outfall continue to experience increased flows and overflows from manholes during wet weather events due to flows from sump pumps, house perimeter drains and due to major construction in the area. Abatement of the Carr Brook CSO shall be addressed early in Phase 2 of the permittee's CSO Master Plan.

The permittee shall continue the collection system work which will be framed by the development of a long-term control project in Phase 2 of their CSO Master Plan. The project will be in concert with several other initiatives including a Capacity, Management, Operation and Maintenance ("CMOM") Corrective Action Plan and the development of an Asset Management Program. The long-term control project shall also include an updated hydraulic model of the collection system.

SPECIAL CONDITIONS

N. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

1. Pursuant to *Combined Sewer Overflow Abatement*, 06-096 CMR 570, the permittee is authorized to discharge from the following locations of CSOs (storm water/sanitary waste water) subject to the conditions and requirements contained herein:

Outfall #	Location	Receiving Water & Class
002	Barkersville	Penobscot River, Class B
003	Davis Brook	Penobscot River, Class B
006	Kenduskeag West	Kenduskeag Stream, Class C
007	Kenduskeag East	Kenduskeag Stream, Class C
009	Hammond Street	Kenduskeag Stream, Class C
011	Meadowbrook	Kenduskeag Stream, Class C
016	Cemetery	Kenduskeag Stream, Class C
020	Carr Brook	Penobscot River, Class B
023	Central Street	Kenduskeag Stream, Class C

2. Prohibited Discharges

   a) The discharge of dry weather flows is prohibited. All such discharges shall be reported to the Department in accordance with Standard Condition D (1) of this permit.

   b) No discharge shall occur as a result of mechanical failure, improper design or inadequate operation or maintenance.

   c) No discharges shall occur at flow rates below the maximum design capacities of the wastewater treatment facility, pumping stations or sewerage system.

3. Narrative Effluent Limitations

   a) The effluent shall not contain a visible oil sheen, settled substances, foam, or floating solids at any time that impair the characteristics and designated uses ascribed to the classification of the receiving waters.

   b) The effluent shall not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life; or which would impair the usage designated by the classification of the receiving waters.

SPECIAL CONDITIONS

N. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

c) The discharge shall not impart color, turbidity, toxicity, radioactivity or other properties that cause the receiving waters to be unsuitable for the designated uses and other characteristics ascribed to their class.

d) Notwithstanding specific conditions of this permit, the effluent by itself or in combination with other discharges shall 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.

4. CSO Master Plan (see Sections 2 & 3 of 06-096 CMR 570)

The permittee shall implement CSO control projects in accordance with an approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled, *Final Draft Combined Sewer Overflow Facilities Plan for the City of Bangor*, dated December 1993, and abatement project schedule was approved by the EPA on December 22, 1994. Key milestones approved in the most recent abatement schedule or agreed to by the permittee and Department that the permittee is required to comply with are:

On or before September 30, 2012 ***(PCS Code 04599),*** the permittee shall initiate the construction of the Odlin Road/Dow Trunk Line Rehabilitation Project.

On or before September 30, 2012, ***(PCS Code 04599)*** the permittee shall submit for approval Phase 2 of their CSO Long-Term Control Plan which will include an updated hydraulic model of the collection system.

On or before December 31, 2012, ***(PCS Code 04599)*** the permittee shall complete their Odlin Road Pump Station/Dow Trunk Line Rehabilitation Project.

To modify the dates and/or projects specified above, the permittee must file an application with the Department to formally modify this permit. The remaining work items identified in the abatement schedule may be amended from time-to-time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

5. Nine Minimum Controls (NMC) (see Section 5 of 06-096 CMR 570)

The permittee shall implement and follow the Nine Minimum Control documentation as approved by EPA on May 29, 1997. Work preformed on the Nine Minimum Controls during the year shall be included in the annual CSO Progress Report (see below).

SPECIAL CONDITIONS

N. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

6. CSO Compliance Monitoring Program (see Section 6 of 06-096 CMR 570)

   The permittee shall conduct block testing or flow monitoring according to an approved *Compliance Monitoring Program* on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations shall be determined by actual flow monitoring, or by estimation using a model such as EPA's Storm Water Management Model (SWMM).

   Results shall be submitted annually as part of the annual *CSO Progress Report* (see below), and shall include annual precipitation, CSO volumes (actual or estimated) and any block test data required. Any abnormalities during CSO monitoring shall also be reported. The results shall be reported on the Department form "CSO Activity and Volumes" (**Attachment E** of this permit) or similar format and submitted to the Department on diskette or other suitable electronic format.

   CSO control projects that have been completed shall be monitored for volume and frequency of overflow to determine the effectiveness of the project toward CSO abatement. This requirement shall not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

7. Additions of New Wastewater (see Section 8 of 06-096 CMR 570)

   06-096 CMR Section 8 lists requirements relating to any proposed addition of wastewater to the combined sewer system. Documentation of the new wastewater additions to the system and associated mitigating measures shall be included in the annual *CSO Progress Report* (see below). Reports must contain the volumes and characteristics of the wastewater added or authorized for addition and descriptions of the sewer system improvements and estimated effectiveness. Any sewer extensions upstream of a CSO must be reviewed and approved by the Department prior to their connection to the collection system. A Sewer Extension/Addition Reporting Form shall be completed and submitted to the Department along with plans and specifications of the proposed extension/addition.

8. Annual CSO Progress Reports (see Section 7 of 06-096 CMR 570)

   The June 28, 1991 Consent Decree requires **semi-annual reports** to the USEPA, the US Department of Justice and the Maine Department of Environmental Protection and other parties in **April and October** ***(PCS Code 11099)***. The April 30 report shall cover the previous calendar year (January 1 to December 31). The CSO Progress Report shall include, but is not necessarily limited to, the following topics as further described in 06-096 CMR 570: CSO abatement projects, schedule comparison, progress on inflow sources, costs, flow monitoring results, CSO activity and volumes, nine minimum controls update, sewer extensions, and new commercial or industrial flows.

SPECIAL CONDITIONS

N. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

8. Annual CSO Progress Reports (see Section 7 of 06-096 CMR 570) (cont'd)

The CSO Progress Reports shall be completed on a standard form entitled "Annual CSO Progress Report", furnished by the Department, and submitted in electronic form, if possible, to the following address:

CSO Coordinator
Department of Environmental Protection
Bureau of Land and Water Quality
Division of Engineering, Compliance and Technical Assistance
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@state.me.us

9. Signs

If not already installed, the permittee shall install and maintain an identification sign at each CSO location as notification to the public that intermittent discharges of untreated sanitary wastewater occur. The sign must be located at or near the outfall and be easily readable by the public. The sign shall be a minimum of 12" x 18" in size with white lettering against a green background and shall contain the following information:

CITY OF BANGOR
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME

10. Definitions

For the purposes of this permitting action, the following terms are defined as follows:

a. Combined Sewer Overflow - a discharge of excess waste water from a municipal or quasi-municipal sewerage system that conveys both sanitary wastes and storm water in a single pipe system and that is in direct response to a storm event or snowmelt.

b. Dry Weather Flows - flow in a sewerage system that occurs as a result of non-storm events or are caused solely by ground water infiltration.

c. Wet Weather Flows - flow in a sewerage system that occurs as a direct result of a storm event, or snowmelt in combination with dry weather flows.

SPECIAL CONDITIONS

O. INDUSTRIAL PRETREATMENT PROGRAM

1. Pollutants introduced into POTWs by a non-domestic source (user) shall not pass-through the publicly owned treatment works (POTW) or interfere with the operation or performance of the works.

   a. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW facilities or operation, are necessary to ensure continued compliance with the POTW's MEPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

      Within 180 days of the effective date of this permit, ***[PCS code 08799]*** the permittee shall prepare and submit a written technical evaluation to the Department analyzing the need to revise local limits. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the permittee shall complete the "Re-Assessment of Technically Based Local Limits" form included as **Attachment 1** of this permit with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by the Department and submit the revisions to the Department for approval. The permittee shall carry out the local limits revisions in accordance with EPA's document entitled*, Local Limits Development Guidance (July 2004).*

2. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, found at 40 CFR 403 and Pretreatment Program, *Pretreatment Program*, 06-096 CMR 528 (effective January 12, 2001). At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

   a. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

SPECIAL CONDITIONS

O. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

c. Obtain appropriate remedies for noncompliance by an industrial user with any pretreatment standard and/or requirement.

d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

e. The permittee shall provide the Department with an annual report describing the permittee's pretreatment program activities for the twelve-month period ending 60 days prior to the due date in accordance with federal regulation found at 40 CFR 403.12(i) and 06-096 CMR 528(12)(i). **The annual report *[PCS code 53199]* shall be consistent with the format described in the "MEPDES Permit Requirements For Industrial Pretreatment Annual Report" form included as Attachment 2 of this permit and shall be submitted no later than December 1 of each calendar year.**

f. The permittee must obtain approval from the Department prior to making any significant changes to the industrial pretreatment program in accordance with federal regulation found at 40 CFR 403.18(c) and 06-096 CMR 528(18).

g. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the federal regulations found at 40 CFR Parts 405 through 471.

h. The permittee must modify its pretreatment program to conform to all changes in the federal regulations and State rules that pertain to the implementation and enforcement of the industrial pretreatment program. **Within 180 days of the effective date of this permit *[PCS code 50999]*,** the permittee must provide the Department in writing, proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current federal regulations and State rules. At a minimum, the permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending the Department's approval under federal regulation 40 CFR 403.18 and 06-096 CMR 528(18). This submission is separate and distinct from any local limits analysis submission described in section 1(a) above.

SPECIAL CONDITIONS

P. 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

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.

Q. REOPENING OF PERMIT FOR MODIFICATIONS

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

SPECIAL CONDITIONS

R. SEVERABILITY

In the event that any provision, or part thereof, of this permit modification 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 1

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

Pursuant to federal regulation 40 CFR Part 122.21(j)(4) and *Pretreatment Program*, 06-096 CMR 528, all Publicly Owned Treatment Works (POTWs) with approved Industrial Pretreatment Programs (IPPs) shall provide the Department with a written evaluation of the need to revise local industrial discharge limits under federal regulation 40 CFR Part 403.5(c)(1) and Department rule 06-096 CMR Chapter 528(6)**.**

Below is a form designed by the U.S. Environmental Protection Agency (EPA - New England) to assist POTWs with approved IPPs in evaluating whether their existing Technically Based Local Limits (TBLLs) need to be recalculated. The form allows the permittee and Department to evaluate and compare pertinent information used in previous TBLLs calculations against present conditions at the POTW. **Please read the directions below before filling out the attached form.**

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your previous MEPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your reissued MEPDES permit.

  The 7Q10 value is the lowest seven day average flow rate, in the river, over a ten-year period. The 7Q10 value and/or dilution ratio used by the Department in your MEPDES permit can be found in your MEPDES permit "Fact Sheet."

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

* List what your existing TBLLs are - as they appear in your current Sewer Use Ordinance (SUO).

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

ITEM III.

* Identify how your existing TBLLs are allocated out to your industrial community. Some pollutants may be allocated differently than others, if so please explain.

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current MEPDES permit limitations - include toxicity.

ITEM V.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in pounds per day) received in the POTW's influent. Current sampling data is defined as data obtained over the last 24 month period.

  All influent data collected and analyzed must be in accordance with federal regulation 40 CFR Part 136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace, or other approved method.

  Based on your existing TBLLs, as presented in Item II., list in Column (2) each Maximum Allowable Industrial Headworks Loading (MAIHL) value corresponding to each of the local limits derived from an applicable environmental criteria or standard, ***e.g.*** water quality, sludge, MEPDES permit, inhibition, etc. For each pollutant, the MAIHL equals the calculated Maximum Allowable Headwork Loading (MAHL) minus the POTW's domestic loading source(s). For more information, please see, *Local Limits Development Guidance (July 2004).*

ITEM VI.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in micrograms per liter) present your POTW's effluent. Current sampling data is defined as data obtained during the last 24 month period.

  All effluent data collected and analyzed must be in accordance with federal regulation 40 CFR Part 136. Sampling data collected should be analyzed using the lowest possible detection method(s), ***e.g.*** graphite furnace, or other approved method.

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

* List in Column (2A) what the Ambient Water Quality Criteria (AWQC) (found in Department rule Chapter 584 –*Surface Water Quality Criteria For Toxic Pollutants*, *Appendix A,* October 2005) were (in micrograms per liter) when your TBLLs were calculated. Please note what hardness value was used at that time. Hardness should be expressed in milligrams per liter of Calcium Carbonate. In the absence of a specific AWQC, control(s) adequate to protect the narrative water quality standards for the receiving water may be applied.

List in Column (2B) the current AWQC values for each pollutant multiplied by the dilution ratio used in your reissued MEPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 20 mg/l - Calcium Carbonate (copper's chronic freshwater AWQC equals 2.36 ug/l) the chronic MEPDES permit limit for copper would equal 45 ug/l. Example calculation:

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]
Chronic AWQC = 2.36 ug/L

Chronic EOP = [25 x $0.75^{(1)}$ x 2.36 ug/L] + [0.25 x 2.36 ug/L] = 45 ug/L

(1) Department rule Chapter 530, *Surface Water Toxics Control Program*, October 2005) requires that 10% of the AWQC be set aside for background that may be present in the receiving water and 15% of the AWQC be set aside as a reserve capacity for new dischargers or expansion of existing discharges.

ITEM VII.

* In Column (1), list all pollutants (in micrograms per liter) limited in your reissued MEPDES permit. In Column (2), list all pollutants limited in your previous MEPDES permit.

ITEM VIII.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants in your POTW's biosolids. Current data is defined as data obtained during the last 24-month period. Results are to be expressed as total dry weight.

All biosolids data collected and analyzed must be in accordance with federal 40 CFR Part 136.

In Column (2A), list current State and/or Federal sludge standards that your facility's biosolids must comply with. Also note how your POTW currently manages the disposal of its biosolids. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria will be and method of disposal.

If you have any questions, please contact the State Pretreatment Coordinator at the Maine Department of Environmental Protection, Bureau of Land & Water Quality, Division of Water

Quality Management, State House Station #17, Augusta, ME. 04333. The telephone number is (207) 287-8898, and the email address is james.r.crowley@maine.gov.

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

MEDES Permit # : _____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance : _____

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1)	**Column (2)**
	EXISTING TBLLs	PRESENT CONDITIONS
POTW Flow (MGD)	_____	_____
SIU Flow (MGD)	_____	_____
Dilution Ratio or 7Q10 from the MEPDES Permit)	_____	_____
Safety Factor	_____	_____N/A_____
Biosolids Disposal Method(s)	_____	_____

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM II.

EXISTING TBLLs

POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)	POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ITEM III.

Note how your existing TBLLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

ITEM IV.

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLLs were calculated?

If yes, explain. _____
_____

Has your POTW violated any of its MEPDES permit limits and/or toxicity test requirements?

If yes, explain. _____
_____

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Industrial Headwork Loading (MAIHL) values used to derive your TBLLs listed in Item II. In addition, please note the environmental criteria for which each MAIHL value was established, *i.e.* water quality, sludge, MEPDES, etc.

Pollutant	**Column (1)** Influent Data Analyses Maximum (lb/day)	Average (lb/day)	**Column (2)** MAIHL Values (lb/day)	Criteria
Arsenic	_____	_____	_____	_____
Cadmium	_____	_____	_____	_____
Chromium	_____	_____	_____	_____
Copper	_____	_____	_____	_____
Cyanide	_____	_____	_____	_____
Lead	_____	_____	_____	_____
Mercury	_____	_____	_____	_____
Nickel	_____	_____	_____	_____
Silver	_____	_____	_____	_____
Zinc	_____	_____	_____	_____
Other (List)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Ambient Water Quality Criteria (AWQC) were at the time your existing TBLLs were developed. List in Column (2B) current AWQC values multiplied by the dilution ratio used in your reissued MEPDES permit.

	Column (1) Effluent Data Analyses		**Columns (2A)** Water Quality Criteria (AWQC)	**(2B)**
Pollutant	Maximum (ug/l)	Average (ug/l)	From TBLLs (ug/l)	Today (ug/l)
Arsenic	_____	_____	_____	_____
Cadmium*	_____	_____	_____	_____
Chromium*	_____	_____	_____	_____
Copper*	_____	_____	_____	_____
Cyanide	_____	_____	_____	_____
Lead*	_____	_____	_____	_____
Mercury	_____	_____	_____	_____
Nickel*	_____	_____	_____	_____
Silver	_____	_____	_____	_____
Zinc*	_____	_____	_____	_____
Other (List)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

*Hardness Dependent (mg/l - $CaCO_3$)

RE-ASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM VII.

In Column (1), identify all pollutants limited in your reissued MEPDES permit. In Column (2), identify all pollutants that were limited in your previous MEPDES permit.

Column (1) REISSUED PERMIT		**Column (2)** PREVIOUS PERMIT	
Pollutants	Limitations (ug/l)	Pollutants	Limitations (ug/l)

ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that were used at the time your existing TBLLs were calculated. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

	Column (1) Biosolids Data Analyses Average (mg/kg)	**Columns (2A)** Biosolids Criteria From TBLLs (mg/kg)	**(2B)** New (mg/kg)
Pollutant			
Arsenic			
Cadmium			
Chromium			
Copper			
Cyanide			
Lead			
Mercury			
Nickel			
Silver			
Zinc			
Molybdenum			
Selenium			
Other (List)			

ATTACHMENT 2

MEPDES PERMIT REQUIREMENTS
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in federal regulation 40 CFR Part 403.8 and Department rule 06-096 CMR Chapter 528(9) indicating compliance or noncompliance with the following:

   - baseline monitoring reporting requirements for newly promulgated industries
   - compliance status reporting requirements for newly promulgated industries
   - periodic (semi-annual) monitoring reporting requirements,
   - categorical standards, and
   - local limit.

2. A summary of compliance and enforcement activities during the preceding year, including the number of:

   - significant industrial users inspected by POTW (include inspection dates for each industrial user);
   - significant industrial users sampled by POTW (include sampling dates for each industrial user);
   - compliance schedules issued (include list of subject users);
   - written notices of violations issued (include list of subject users);
   - administrative orders issued (include list of subject users),
   - criminal or civil suits filed (include list of subject users); and
   - penalties obtained (include list of subject users and penalty amounts).

3. A list of significantly violating industries required to be published in a local newspaper in accordance with federal regulation 40 CFR Part 403.8(f)(2)(viii) and Department rule 06-096 CMR Chapter 528(9)(f)(2)(vii).

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority.

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the POTW and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this permit.

MEPDES PERMIT REQUIREMENTS
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

At a minimum, annual sampling and analysis of the influent and effluent of the POTW shall be conducted for the following pollutants:

a.) Total Cadmium	f.) Total Nickel
b.) Total Chromium	g.) Total Silver
c.) Total Copper	h.) Total Zinc
d.) Total Lead	i.) Total Cyanide
e.) Total Mercury	j.) Total Arsenic

The sampling program shall consist of one 24-hour, flow-proportioned, composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly, flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually, or shall consist of a minimum of 48 samples collected at 30-minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with federal regulation 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year.

7. A thorough description of all investigations into interference and pass-through during the past year.

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies.

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users.

10. The date of the latest adoption of local limits and an indication as to whether or not the City is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

ATTACHMENT A

Printed 1/22/2009

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

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

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

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

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

FRESH WATER VERSION

Please see the footnotes on the last page.

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

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

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

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

V	ACROLEIN	NA									
V	ACRYLONITRILE	NA									
V	BENZENE	5									
V	BROMOFORM	5									
V	CARBON TETRACHLORIDE	5									
V	CHLOROBENZENE	6									
V	CHLORODIBROMOMETHANE	3									
V	CHLOROETHANE	5									
V	CHLOROFORM	5									
V	DICHLOROBROMOMETHANE	3									
V	ETHYLBENZENE	10									
V	METHYL BROMIDE (Bromomethane)	5									
V	METHYL CHLORIDE (Chloromethane)	5									
V	METHYLENE CHLORIDE	5									
V	TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene)	5									
V	TOLUENE	5									
V	TRICHLOROETHYLENE (Trichloroethene)	3									
V	VINYL CHLORIDE	5									

Notes:

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

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

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

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

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

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

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

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

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

Comments:

ATTACHMENT B

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

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

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

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

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

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

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

ATTACHMENT C

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
FRESH WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

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

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

Chlorinated? _____ Dechlorinated? _____

Results

	% effluent	
	water flea	**trout**
A-NOEL		
C-NOEL		

Effluent Limitations

A-NOEL	
C-NOEL	

Data summary

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

place * next to values statistically different from controls

for trout show final wt and % incr for both controls

Reference toxicant

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

Comments _____

Laboratory conducting test

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

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

ATTACHMENT D

Maine Department of Environmental Protection

Effluent Mercury Test Report

Name of Facility: _____ Federal Permit # ME _____

Pipe # _____

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

SAMPLE COLLECTION INFORMATION

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

Sampling Location:

Weather Conditions: _____

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

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

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

ANALYTICAL RESULT FOR EFFLUENT MERCURY

Name of Laboratory: _____

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

Please Enter Effluent Limits for your facility

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

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

CERTIFICATION

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

By: _____ Date: _____

Title: _____

PLEASE MAIL THIS FORM TO YOUR ASSIGNED INSPECTOR

ATTACHMENT E

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
CSO ACTIVITY AND VOLUMES

MUNICIPALITY OR DISTRICT	MEPDES / NPDES PERMIT NO.
REPORTING YEAR	SIGNED BY:
YEARLY TOTAL PRECIPITATION INCHES	DATE:

CSO EVENT NO.	START DATE OF STORM	PRECIP. DATA		FLOW DATA (GALLONS PER DAY) OR BLOCK ACTIVITY("1")							
		TOTAL INCHES	MAX. HR. INCHES	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	EVENT OVERFLOW GALLONS	EVENT DURATION HRS
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
	TOTALS										

Note 1: Flow data should be listed as gallons per day. Storms lasting more than one day should show total flow for each day.

Note 2: Block activity should be shown as a "1" if the block floated away.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

May 26, 2011

PERMIT NUMBER: **ME0100781**
LICENSE NUMBER: **W001041-5M-F-R**

NAME AND ADDRESS OF APPLICANT:

CITY OF BANGOR
760 Main Street
Bangor, Maine 04401

COUNTY: **Penobscot County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

760 Lower Main Street
Bangor, Maine 04401

RECEIVING WATER AND CLASSIFICATION: **Penobscot River/Class B**
Kenduskeag Stream/Class C

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Bradley Moore, Supt.**
(207) 992-4471
brad.moore@bangormaine.gov

1. APPLICATION SUMMARY

a. Application: The City of Bangor (permittee) has applied for renewal of Waste Discharge License (WDL) # W001041-5M-E-R, which was issued on February 12, 2002 and expired on February 12, 2007. The WDL approved the discharge of 18.0 million gallons per day (MGD) (monthly average) of secondary treated municipal waste waters, an unspecified quantity of primary treatment waste water from a generic bypass structure to the Penobscot River, Class B, and untreated sanitary/storm water from twelve (12) combined sewer overflow (CSO) structures to the Penobscot River, Class B, and Kenduskeag Stream, Class C. It is noted the segment of the Penobscot River where discharges occur was reclassified to a Class B waterway in calendar year 1999.

2. PERMIT MODIFICATION REQUESTED

The permittee is requesting relicensing of CSO #020 (Carr Brook) due to increased flows and overflows from manholes during wet weather events.

3. PERMIT MODIFICATION GRANTED

The Department is granting the relicensing of CSO #020 (Carr Brook).

4. PERMIT SUMMARY

a. History: The most recent relevant licensing and permitting actions include the following:

September 14, 1983 – The Department issued WDL #1041 which authorized the City of Bangor (City) to discharge 9.0 million gallons per day (MGD) of primary treated waste waters to the Penobscot River.

December 30, 1986 – The U.S. Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) permit #ME0100781 with secondary treatment requirements as specified by the Clean Water Act (CWA).

June 30, 1987 – The Department and the City of Bangor entered into a Consent Decree ordering the upgrade of the waste water treatment facility from a primary to secondary level of treatment and rehabilitation of the sanitary sewer collection system. The Consent Decree was amended in December of 1987.

June 28, 1991 - The USEPA, the U.S. Department of Justice, the State of Maine and City of Bangor entered into a consent Decree superseding and incorporating the conditions of the June 30, 1987 Consent Decree and adding conditions to address combined sewer overflow control, including requirements for a CSO Facilities Plan and an implementation schedule

October 1, 1992 – The EPA re-issued NPDES permit #ME0100781 with secondary treatment requirements.

December 17, 1992 – The City completed construction of the plant upgrade and expansion (to secondary treatment) and commenced operations of the new treatment facility.

December 1993 – The City submitted a document to the EPA and Department entitled Final Draft Combined Sewer Overflow Facilities Plan For the City of Bangor. The facilities plan proposed a four (4) phase implementation schedule.

December 22, 1994 – The EPA conditionally approved Phases I and II of the City's CSO facility plan. Approval of Phases III and IV were contingent upon the results achieved in Phase I & II.

4. PERMIT SUMMARY (cont'd)

a. History (cont'd):

April 2, 1996 – The EPA approved the City's proposal to provide a CSO bypass at the treatment plant. Flows in excess of 30 MGD, up to a peak flow of 43 MGD, would receive primary treatment and disinfection and would be blended with the secondary treated waste stream prior to discharge through a common outfall. It should be noted that this request and approval was based on a blended effluent (CSO bypass and secondary) with the blended effluent discharge expected to meet water quality standards at all times.

September 30, 1996 – The EPA issued a modification of NPDES permit #ME0100781 that authorized a bypass of secondary treatment for flows exceeding 30 MGD. The permit required any waste waters bypassing secondary treatment be primarily treated and disinfected prior to discharge.

November 1, 1996 – The Department issued WDL #W001041-47-B-R for five year term.

May 11, 1998 – The EPA approved the City's request to construct the Davis Brook CSO Storage Facility (a Phase IV project).

May 19, 2000 – The Department approved the City's request to construct the Kenduskeag East CSO Storage Facility (a Phase III project), other improvements that incorporate the intent of the Kenduskeag West Floating Solids Trap (a Phase III project) and improved monitoring capabilities at Kenduskeag East and West CSO discharge locations.

June 6, 2000 – The EPA approved the City's request to construct the Kenduskeag EAST CSO Storage Facility (a Phase III project) other improvements that incorporate the intent of the Kenduskeag West Floating Solids Trap (a Phase III project) and improved monitoring capabilities at Kenduskeag East and West CSO discharge locations.

September 19, 2000 – The EPA re-issued NPDES permit #ME0100781.

September 24, 2001 – The EPA approved the City's proposed modification to the consent Decree schedule that authorizes the City to proceed with all remaining Phase III and Phase IV projects. The City intends to construct the Hancock Street Sewer Separation project by December 31, 2002 (instead of the Hancock Street Vortex Treatment Facility), the Franklin Street Sewer Separation Project by December 31, 2002 (instead of the Harlow Street Consolidation Project) and the Barkersville CSO Storage Facility at a location different from that proposed by the CSO Facilities Plan. The City, EPA and the Department will negotiate a schedule for the Barkersville project, Hayford Park project and the evaluation of all projects in the four phases of the City's CSO Control Program.

January 12, 2001 – The Department received authorization from the EPA to administer the NPDES program in Maine. The new program is being referred to as the MEPDES program.

February 12, 2002 – The Department issued WDL #W001041-5M-E-R for a five-year term.

4. PERMIT SUMMARY (cont'd)

a. History (cont'd):

April 20, 2006 - The Department issued a modification of the 2/12/02 WDL by incorporating WET and chemical specific testing requirements pursuant to 06-096 CMR 530.

July 12, 2006 – The permittee submitted a timely application for permit renewal. The application was accepted as complete on 7/12/06 and was assigned WDL #W001041-5M-F-R.

December 16, 2008 – The Department issued a modification of the 2/12/02 WDL by establishing a deadline of December 31, 2009 for the submission of an updated CSO Master Plan.

b. **This permitting action is similar to the 2/12/02 permitting action in that it is:**

1. Carrying forward the monthly average flow limit of 18.0 MGD.

2. Carrying forward the monthly average and weekly average mass and concentration limits for biochemical oxygen demand (BOD5) and total suspended solids (TSS) (Outfall #001A).

3. Carrying forward the default screening level monitoring requirements for whole effluent toxicity (WET), analytical chemistry and priority pollutant testing.

This permitting action is different from the 2/12/02 permitting action in that it is:

4. Revising the sampling location for Outfall #001B.

5. Eliminating numerical discharge limitations for total cadmium per *Surface Water Toxics Control Program*, 06-096 CMR 530, (effective October 12, 2005).

6. Eliminating numerical discharge limitations for total silver per 06-096 CMR 530.

7. Reducing monitoring frequency requirements for total cadmium and total silver per 06-096 CMR 530.

8. Establishing monthly average water quality based mass and concentration limits for total copper and total lead.

9. Establishing monthly average water quality based mass and concentration limits for inorganic arsenic.

10. Establishing monitoring requirements for total arsenic based on *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005).

11. Revising the acute and chronic flows based on flow data updated in March 2003.

4. PERMIT SUMMARY (cont'd)

b. **This permitting action is <u>similar to</u> the 2/12/02 permitting action in that it is:**

12. Establishing seasonal (June 1 – September 30) monitoring requirements for total phosphorus.

13. Eliminating WET monitoring requirements for the fathead minnow (*Pimephales promelas*).

14. Establishing default surveillance-level WET testing requirements and permit limits for the water flea (*Ceriodaphnia dubia*).

15. Eliminating four (4) permitted combined sewer overflow (CSO) outfalls based on work completed in Phase 1 of the permittee's *CSO Long-term Control Plan*.

16. Re-permitting CSO #020 (Carr Brook).

c. <u>Source Description:</u> The City of Bangor (permittee) has an area of 32.9 square miles and a population of 33,000 people. The permittee consists of an urbanized core made up of residential, commercial and light industrialized areas totaling approximately 16 square miles. The waste water treatment facility receives sanitary and process waste waters from residential, commercial and industrial facilities within the City of Bangor and the Towns of Hampden and Hermon. The permittee has ten (10) Significant Industrial Users (SIUs) and is required to implement an Industrial Pretreatment Program as a condition of the NPDES permit issued on October 1, 1992.

Early sewer records date back to the 1850's. To date the permittee maintains 147.5 miles of collector sewers and 9.4 miles of interceptor sewer. In 1968 the permittee started operating a primary treatment plant. In 1987 the permittee began working on a multimillion-dollar program to abate and control CSOs. In 1992 the permittee finished constructing and began operating a secondary treatment plant. That same year the permittee undertook a program to develop a CSO Control Plan. The plan outlines projects in the sewer system to control CSO discharges and improve water quality. Since the previous permitting action, the permittee has removed one (1) CSO outfall from the Penobscot River and four (4) CSO outfalls from the Kenduskeag Stream.

The permittee maintains a combined sewer system which conveys both domestic wastewater and storm water runoff to the treatment facility. During wet weather periods, the combined sewer collection system is periodically overloaded. Since the previous permitting action, the permittee determined there are indications that a subsection of former CSO #020 (Carr Brook) is continuing to experience increased flows and overflows from manholes during wet weather events due to flows from sump pumps, house perimeter drains and major construction in the area. The permittee has requested, and the Department is granting, relicensing of former CSO #020 in this permitting action. With this permitting action, the permittee is permitted to maintain nine (9) combined sewer overflow points [identified in Special Condition N of this permit] in the collection system through which excess flows are periodically discharged to receiving waters.

4. PERMIT SUMMARY (cont'd)

c. Source Description (cont'd):

The waste water treatment facility is designed to provide secondary treatment for a monthly average flow of 18 MGD and a daily maximum flow of 30 MGD. The facility provides a secondary level of treatment by way of a dual-stage activated biofilter system consisting of a fixed-film biotower process followed by a high-rate suspended growth phase. The treatment process includes primary settling tanks, two reaeration tanks, two circular final clarifiers, two chlorine contact basins, two sludge thickening tanks and two belt filter presses. The facility uses sodium hypochlorite and sodium bisulfite for chlorination and dechlorination, respectively, of the final effluent. See **Attachment A** of this Fact Sheet for a facility schematic.

As part of its CSO Abatement Program, the permittee treats a portion of the excess flows via an influent pipe that is capable of conveying 43 MGD to the treatment facility. To the extent possible, CSO flows will receive secondary treatment along with normal dry weather flows. However, in order to prevent damage to the biological treatment process, the volume of water receiving secondary treatment is limited to 30 MGD. If the hydraulic capacities of the Penobscot and Penobscot East Interceptors are exceeded, inground storage facilities are used to further prevent a CSO. When storage capacities are reached, the respective CSO points will be used. Influent flows exceeding 30 MGD will receive primary treatment and disinfection and will then be combined with secondary treated waste water prior to discharge to the Penobscot River via a 48-inch outfall pipe at a depth of 18 feet below mean low water. The outfall pipe is fitted with a two-port diffuser to enhance mixing of the discharge with receiving waters.

The 2/12/02 WDL authorized the permittee to accept up to 20,000 gallons per day of transported wastes which includes septage and floor drain wastes (melted water from trucks and equipment) from the Maine Department of Transportation garages. This authorization is being carried forward in this permitting action.

The permittee has a High Flow Management Plan that was last revised on December 3, 2010.

5. CONDITIONS OF PERMITS

Conditions of Licenses, 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, *Certain Deposits and Discharges Prohibited,* 38 M.R.S.A. Section 420 and *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005), require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

6. RECEIVING WATER QUALITY STANDARDS

Classification of Major River Basins, 38 M.R.S.A., Section 467(7)(A)(6) indicates the Penobscot River main stem, from the Maine Central Railroad bridge in Bangor to a line extended in an east-west direction from a point 1.25 miles upstream of the confluence of Reeds Brook in Hampden is classified as a Class B waterway. Further, the Legislature finds that the free-flowing habitat of this river segment provides irreplaceable social and economic benefits and that this use must be maintained. Maine law, 38 M.R.S.A., Section 465(3) describes standards for classification of 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.

38 M.R.S.A., Section 467(7)(F)(3) indicates the Kenduskeag Stream at the point of discharge is classified as a Class C waterway. Maine Law, 38 M.R.S.A., Section 465(4) describes standards for classification of Class C waters.

7. RECEIVING WATER QUALITY CONDITIONS

Table Category 5-D entitled, *Rivers and Streams Impaired By Legacy Pollutants ,* in a document entitled, 2008 Maine Integrated Water Quality Report, [referred to as the 305(b) report] published by the Department states the designated use of fishing (consumption) is impaired in a ten mile segment of the Penobscot River between the Veazie Dam and Reed Brook due to the presence of PCBs in fish tissue. The Department is not aware of any information that indicates the discharge from the permittee's waste water treatment facility is causing or contributing to the impairment.

7. RECEIVING WATER QUALITY CONDITIONS, cont'd

In addition, the Report lists all freshwaters in Maine in "*Category 4-A: Rivers and Streams With Impaired Use, TMDL Completed.* Impairment in this context refers to the designated use of recreational fishing due to elevated levels of mercury in some fish caused by atmospheric deposition. As a result, the State has established a fish consumption advisory for all freshwaters in Maine. The Report states that a 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 8(j) of this Fact Sheet.

In the summers of 1997, 2001 and 2007, the Department conducted ambient water quality sampling on a 103-mile segment of the Penobscot River from Millinocket to Bucksport.

Reports entitled, *Penobscot River Modeling Report, Final, June 2000, Penobscot River Data Report May 2002,* and *Penobscot River Modeling Report Draft, March 2003,* prepared by the Department, indicate there are sections of non-attainment of dissolved oxygen standards as a result of algal blooms in portions of the Class B sections of the rivers. These sections of river have experienced measured DO non-attainment at various locations during periods of low flow and high water temperature. Measured DO non-attainment is predominantly in the early morning hours in sections of river with significant diurnal dissolved oxygen (DO) swings. These significant diurnal DO swings are caused by nutrient enrichment and resulting plant growth. The Department has issued a report entitled, *Penobscot River Phosphorus Waste Load Allocation, May 2011* stating seasonal mass based total phosphorus limitations are necessary for the four industrial dischargers on the river as well as monitoring for total phosphorus for five municipal waste water treatment facilities, including the Bangor facility. The specific eutrophication related responses that are targeted by the waste load allocation are not expected to persist into the tidally influenced portion of the Penobscot River. However, water quality improvements associated with the waste load allocation are expected to extend into the tidally influenced section of the river. The effectiveness of the nutrient load reductions will be assessed through routine ambient monitoring for total phosphorous, dissolved oxygen and biochemical oxygen demand. See Special Condition H, *Ambient* Water *Quality Monitoring.*

The Kenduskeag Stream and its tributaries (Assessment ID# ME0102000510_224R) are listed in the 305b Report table entitled, Category 2: *Rivers and Streams Attaining Some Designated Uses - Insufficient Information for Other Uses.*

If ambient water quality monitoring or future modeling determines that at full permitted discharge limits the permittee is causing or contributing to the non-attainment of standards, this permit will be re-opened per Special Condition Q, *Reopening of Permit For Modifications,* to impose more stringent limitations to meet water quality standards.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

a. Flow: The monthly average flow limitation of 18.0 MGD in the previous permitting action is being carried forward in this permitting action and remains representative of the monthly average design flow for the waste water treatment facility.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 (n=59) indicates the facility has discharged monthly average effluent flows in the range of 3.9 MGD to 14.6 MGD with an arithmetic mean of 9.3 MGD. Daily maximum flows for the same period (n=59) ranged from 6.1 MGD to 30.9 MGD with an arithmetic mean of 21.8 MGD.

b. Dilution Factors: The Department established applicable dilution factors for the discharge in accordance with freshwater protocols established in *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005).

With a permitted monthly average treatment plant flow limit of 18.0 MGD, dilution calculations are as follows:

Acute: 1Q10 = 2892 cfs $\Rightarrow \frac{(2892 \text{ cfs})(0.6464^{(2)}) + (18.0 \text{ MGD})}{(18.0 \text{ MGD})} = 104.9:1$

Modified Acute[(1)] = 723 cfs $\Rightarrow \frac{(723 \text{ cfs})(0.6464) + (18.0 \text{ MGD})}{(18.0 \text{ MGD})} = 27.0:1$

Chronic: 7Q10 = 3206 cfs $\Rightarrow \frac{(3206 \text{ cfs})(0.6464) + (18.0 \text{ MGD})}{(18.0 \text{ MGD})} = 116.1:1$

Harmonic Mean: = 9,101 cfs $\Rightarrow \frac{(9{,}101 \text{ cfs})(0.6464) + (18.0 \text{ MGD})}{(18.0 \text{ MGD})} = 327.8:1$

Footnotes:

(1) 06-096 CMR 530 (4)(B)(1) states that analyses using numeric acute criteria for aquatic life must be based on 1/4 of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The 1Q10 is 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 has made the determination that the discharge does not receive rapid and complete mixing with the receiving water, therefore the default stream flow of ¼ of the 1Q10 is applicable in acute statistical evaluations pursuant to 06-096 CMR 530. The 1Q10 and 7Q10 data were updated 3/26/03.

(2) Conversion factor, cubic feet per second to million gallons per day.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): This permitting action is carrying forward the 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 in 06-096 CMR 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were 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 and weekly average limitations based on a monthly average limit of 18 MGD that are being carried forward in this permitting action.

The limitations were calculated as follows:

Monthly average = (30 mg/L) (18.0 MGD) (8.34 lbs/gallon) = 4,504 lbs/day

Weekly average = (45 mg/L) (18.0 MGD) (8.34 lbs/gallon) = 6,755 lbs/day

No daily maximum mass limitations (report only) for BOD5 or TSS were established in the previous permitting action as doing so may discourage the permittee from treating as much waste water through the secondary treatment system during wet weather events.

A review of the DMR data for the period February 2006 – February 2011 indicates the monthly average and daily maximum mass and concentration values for BOD5 & TSS have been reported as follows:

BOD_5 Mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)	Number of DMRs	Compliance
Monthly Average	4,504	319 – 2,544	1,055	58	100%
Weekly Average	6,755	114 – 3,074	1,504	58	100%
Daily Maximum	Report	846 – 5,609	2,975	59	N/A

BOD_5 Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)	Number of DMRs	Compliance
Monthly Average	30	8 – 26	15	58	100%
Daily Maximum	50	12 – 45	21	58	100%

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS) (cont'd):

TSS mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)	Number of DMRs	Compliance
Monthly Average	4,504	254 – 1,492	673	59	100%
Weekly Average	6,755	286 – 3,065	1,209	58	100%
Daily Maximum	Report	664 – 6,138	2,954	59	N/A

TSS concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)	Number of DMRs	Compliance
Monthly Average	30	6- 16	10	59	100%
Daily Maximum	50	11 – 31	20	59	100%

The permittee's BOD5 and TSS percent removal rates for the period of February 2006 – February 2011 ranged from 81% - 97% (n=52) and from 89% - 98%, respectively.

This permitting action is carrying forward the requirement of 85% removal for BOD5 and TSS pursuant to 06-096 CMR 525(3)(III)(a&b)(3).

Monitoring frequencies for BOD5 and TSS of 5/Week are being carried forward from the previous permitting action and are based on Department guidance for facilities with a monthly average flow greater than 5.0 MGD.

d. Settleable Solids: The previous permitting action established a daily maximum concentration limit of 0.3 mL/L for settleable solids and is considered by the Department as a best professional judgment of BPT for secondary treated waste waters. A review of the DMR data for the period February 2006 – February 2011 (n=59) indicates the daily maximum settleable solids concentration values reported have ranged from <0.1 mL/L to 0.3 mL/L. The previous permitting action established a daily monitoring frequency of 1/Day that is being carried forward in this permitting action.

e. *E. coli* Bacteria: *Standards for the Classification of Fresh Surface Waters*, 38 M.R.S.A, §465(2), establishes monthly average and daily maximum ambient water quality based *E. coli* thresholds of 64 colonies/100 mL and 236 colonies/100 mL, respectively. However, the Department has developed an alternative approach to calculating daily maximum limits that considers the dilution of the receiving water for freshwater dischargers. Based on this approach, the Department has determined that any facility in Class B waters with a dilution of at least 1.1:1 would carry forward their existing end-of-pipe daily maximum *E. coli* limitation of 427 colonies/100mL.This permitting action is carrying forward the monthly average and daily maximum *E. coli* bacteria limits of 64 colonies/100 mL and 427 colonies/100 mL, respectively, from the previous permitting action.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

e. *E. coli* Bacteria (cont'd):

A review of the DMR data for the period February 2006 – February 2011 indicates the monthly average and daily maximum values have been reported as follows:

***E. coli* bacteria**

Value	Limit (#col/100 mL)	Range (#col/100 ml)	Arith. Mean (#col/100 mL)	Number of DMRs	Compliance
Monthly Average	64	1 – 6	3	25	100%
Daily Maximum	427	6 – 1,300	118	25	96%

This permitting action is carrying forward the 5/Week *E. coli* monitoring requirement from the previous permitting action.

f. Total Residual Chlorine: TRC limits are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Permitting actions by the Department impose the more stringent of water quality or technology based limits. 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	27.0:1[(1)]	116.1:1	0.51 mg/L	1.3 mg/L

Example calculation, Acute: 0.019 mg/L (27) = 0.51 mg/L

Footnotes:

[(1)] Based on a ¼1Q10 stream flow of 723 cfs.

To meet the acute water quality based threshold calculated above, the permittee must dechlorinate the effluent prior to discharge. In April of 1999, the Department established a new daily maximum BPT limitation of 0.3 mg/L for facilities that need to dechlorinate their effluent unless calculated water quality based thresholds are lower than 0.3 mg/L. In the case of the permittee, the calculated acute water quality based threshold is higher than 0.3 mg/L, thus the BPT limit of 0.3 mg/L is imposed as a daily maximum limit. As for the monthly average limitation, the Department's BPT limitation is 0.1 mg/L. Being that the calculated chronic water quality based limit is higher than the BPT limit of 0.1 mg/L, the BPT limit is imposed in this permitting action.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

f. Total Residual Chlorine (cont'd):

A review of the DMR data for the period February 2006 – February 2011 indicates the monthly average and daily maximum TRC concentration values have been reported as follows:

Total Residual Chlorine

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)	Number of DMRs	Compliance
Monthly Average	0.1	0 – 0.08	0.02	25	100%
Daily Maximum	0.3	0 – 0.7	0.1	25	92%

This permitting action is carrying forward the daily TRC monitoring requirements from the previous permitting action.

g. pH – This permitting action is carrying forward 1/Day monitoring requirement and the BPT-based pH daily maximum limits of 6.0 – 9.0 standard units pursuant to 06-096 CMR 525(3)(III)(c). A review of the DMR data for the period February 2006 – February 2011 (n=59) indicates the pH range was 7.0 SU – 7.7 SU.

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing: 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. 06-096 CMR 530 and 06-096 CMR 584 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 06-096 CMR 530 are 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 06-096 CMR 584.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

06-096 CMR 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

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

06-096 CMR 530 (D)(1) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the 06-096 CMR 530 (D)(1) criteria, the permittee falls into Level III frequency category as the facility has a chronic dilution factor of ≥100:1 but <500:1. 06-096 CMR 530 (D)(1) specifies that default screening and surveillance level testing requirements are as follows:

Screening level testing – Beginning 12 months prior to expiration of the permit and every five years thereafter.

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

Surveillance level testing – Beginning upon issuance of the permit and lasting through 12 months prior to permit expiration.

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	None required	1 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 06-096 CMR 530. See **Attachment B** of this Fact Sheet for a summary of the WET test results and **Attachment C** of this Fact Sheet for a summary of the chemical-specific test dates.

06-096 CMR 530 (3)(b) states in part, *Dischargers in Levels III and IV may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).*

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

06-096 CMR 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.*"

06-096 CMR 530 (3) states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

WET evaluation

On 2/04/11, the Department conducted a statistical evaluation on the most recent 60 months of WET data that indicates that the discharge has a reasonable potential (RP) to exceed the acute and chronic critical ambient water quality criteria (AWQC) thresholds (3.7% and 0.86% – mathematical inverses of the modified acute dilution factor of 27:1 and the chronic dilution factor 116:1) for the water flea. As a result, this permit is establishing acute (A-NOEL) and chronic (C-NOEL) limits of 3.7% and 0.86%, respectively, for the water flea along with a default surveillance level monitoring frequency of 1/Year.

Given the absence of exceedences or reasonable potential to exceed critical WET thresholds for the brook trout, the permittee meets the surveillance level monitoring frequency waiver criteria found at 06-096 CMR 530 (D)(3)(b). Therefore, this permitting action is waiving the surveillance level WET testing on the brook trout. Screening level testing for both the water flea and the brook trout shall be completed in the 12-month period prior to the expiration date of this permit and every five years thereafter.

This permitting action is eliminating WET monitoring requirements for the fathead minnow (*Pimephales promelas*) as the Department no longer uses that organism for WET testing.

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

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

Chemical evaluation

06-096 CMR 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 Penobscot 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.

06-096 CMR 530 (4)(E), states *"In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity."* Therefore, the Department is reserving 15% of the applicable water quality criteria in the calculations of this permitting action.

06-096 CMR 530 (4) (E)states *"... 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."*

06-096 CMR 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.*

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

Evaluations must be done for individual pollutants of concern in each watershed or segment to assure that water quality criteria are met at all points in the watershed and, if appropriate, within tributaries of a larger river. The total assimilative capacity, less the water quality reserve and background concentration, may be allocated among the discharges according to the past discharge quantities for each as a percentage of the total quantity of discharges, or another comparable method appropriate for a specific situation and pollutant. Past discharges of pollutants must be determined using the average concentration discharged during the past five years and the facility's licensed flow.

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

See **Attachment D** of this Fact Sheet for Department guidance that establishes protocols for establishing waste load allocations. The guidance states that the most protective of water quality becomes the facility's allocation. According to the 2/9/11 statistical evaluation (Report ID #342), all pollutants of concern (arsenic, copper and lead) are to be limited based on the segment allocation method.

06-096 CMR 530 (3)(D)(1) states "*For specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded. With regard to concentration limits, the Department may review past and projected flows and set limits to reflect proper operation of the treatment facilities that will keep the discharge of pollutants to the minimum level practicable.*"

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

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

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

Segment allocation methodology

Historical Average:

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

Arsenic (inorganic)

Mass limits

Mean concentration (n=16) = 3.2 ug/L or 0.0032 mg/L

Permit flow limit = 18.0 MGD

Historical average mass = (0.0032 mg/L)(8.34)(18 MGD) = 0.48 lbs/day

The 2/09/11 statistical evaluation (Report ID #342) indicates the historical average mass of total arsenic discharged by the permittee's facility is 79% of the arsenic discharged by the facilities on the Penobscot River and its tributaries. Therefore, the permittee's segment allocation for arsenic is calculated as 79% of the harmonic mean assimilative capacity of the river at Bangor, the most downstream facility minus the assimilative capacities assigned to the tributaries on the Penobscot River that have permitted discharges. The Department has calculated a harmonic mean assimilative capacity of 0.344 lbs/day of inorganic arsenic at Bangor.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

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

Monthly average mass for inorganic arsenic

(Harmonic mean assimilative capacity mass)(% of inorganic arsenic discharged)
(0.344 lbs/day)(0.79)= 0.27 lbs/day

Concentration limits

Monthly average concentration for inorganic arsenic;

$$\frac{0.27 \text{ lbs/day}}{(18.0 \text{ MGD})(8.34 \text{ lbs/gal.})} = 0.0018 \text{ mg/L or } 1.8 \text{ ug/L}$$

06-096 CMR 530 (C)(6) states:

All chemical testing must be carried out by approved methods that permit detection of a pollutant at existing levels in the discharge or that achieve detection levels as specified by the Department. When chemical testing results are reported as less than, or detected below the Department's specified detection limits, those results will be considered as not being present for the purposes of determining exceedences of water quality criteria.

The USEPA has not approved a test method for inorganic arsenic as of the date of issuance of this permit. Therefore, there is no way for the permittee to formally demonstrate compliance with the monthly average water quality based mass and concentration limits for inorganic arsenic established in this permitting action. Therefore, beginning upon issuance of this permit and lasting through the date in which the USEPA approves a test method for inorganic arsenic the permittee is being required to monitor for total arsenic. Once a test method is approved, the Department will notify the permittee in writing and the limitations and monitoring requirements for inorganic arsenic become effective thereafter.

As of the date of this permitting action, the Department has limited data on the percentage of inorganic arsenic (approximately 50%) in total arsenic test results. Based on a literature search conducted by the Department, the inorganic fraction can range from 1% - 99% depending on the source of the arsenic. Generally speaking, ground water supplies derived from bedrock wells will likely tend to have higher fractions of inorganic arsenic (As^{+3}-arsentite and/or As^{+5}-arsenate) than one may find in a food processing facility where the inorganic fraction is low and the organic fraction (arsenobetaine, arsenoribosides) is high. Until the Department and the regulated community in Maine develop a larger database to establish statistically defensible ratios of inorganic and organic fractions in total arsenic test results, the Department is making a

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

rebuttable presumption that the effluent contains a ratio of 50% inorganic arsenic and 50% organic arsenic in total arsenic results.

Being that the only approved test methods for compliance with arsenic limits established in permits is for total arsenic, the Department converted the water quality based end-of pipe monthly average concentration value of 1.8 ug/L for inorganic arsenic calculated on the previous page of this Fact Sheet into an equivalent total arsenic threshold (assuming 50% of the total arsenic is inorganic arsenic). This results in a total arsenic end-of-pipe monthly average concentration threshold of 3.6 ug/L. The calculation is as follows:

$$\frac{\text{1.8 ug/L inorganic arsenic}}{\text{0.5 ug/L inorganic arsenic/ 1.0 ug/L total arsenic}} = \text{3.6 ug/L total arsenic}$$

Therefore, a total arsenic value greater than 3.6 ug/L is potentially exceeding the water quality based end-of pipe monthly average concentration value of 1.8 ug/L for inorganic arsenic. Only the results greater than the total arsenic threshold of 3.6 ug/L will be considered a potential exceedence of the inorganic limit of 1.8 ug/L. It is noted the Department's current RL for total arsenic is 5.0 ug/L.

If a test result is determined to be a potential exceedence, the permittee shall submit a toxicity reduction evaluation (TRE) to the Department for review and approval within 45 days of receiving the test result of concern from the laboratory. Contact the Department's compliance inspector for a copy of the Department's December 2007 guidance on conducting a TRE for arsenic.

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

> *Beginning upon issuance of this permit modification and lasting through a date on which the USEPA approves a test method for inorganic arsenic, the limitations and monitoring requirements for inorganic are not in effect. During this time frame, the permittee is required by Special Condition A, Effluent Limitations and*

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

Monitoring Requirements, of this permit to conduct 1/Year sampling and analysis for total arsenic.

Upon receiving written notification by the Department that a test method for inorganic arsenic has been approved by the USEPA, the limitations and monitoring requirements for inorganic arsenic become effective and enforceable and the permittee is relieved of their obligation to sample and analyze for total arsenic.

The schedule of compliance reserves the final date for compliance with the limit for inorganic arsenic. This reservation stems from the fact the EPA has no schedule for approving a test method for inorganic arsenic nor does the Department have any authority to require the EPA to do so. Therefore, the Department considers the aforementioned schedule for inorganic arsenic to be as short as possible given the technological (or lack thereof) issue of not being able to sample and analyze for inorganic arsenic with an approved method.

Waste Discharge License Conditions, 06-096 CMR 523 Section 7, *Schedules of Compliance* sub-§3, *Interim dates*, states in part, "*if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.*

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

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

Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit requires that beginning upon issuance of this permit and lasting through USEPA approval of a test method for inorganic arsenic, the permittee shall conduct 1/Year monitoring for total arsenic. Should the test method approval for inorganic arsenic extend more than one year from the date of the issuance of this permit the sampling and analysis for total arsenic will serve to satisfy the interim requirements specified by 06-096 CMR 523, Section 7, *Schedules of Compliance*, Sub-section 3, *Interim dates.*

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

06-096 CMR 530 §(3)(D)(1) states, "*For specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded.*

With regard to concentration limits, the Department may review past and projected flows and set limits to reflect proper operation of the treatment facilities that will keep the discharge of pollutants to the minimum level practicable."

It is noted the calculations for establishing limitations for inorganic arsenic in this Fact Sheet do not increase the EOP concentration for inorganic arsenic by a factor of 1.5 due to uncertainty of the ratio between organic and inorganic fractions of total arsenic. However, the Department has given the permittee some flexibility by evaluating possible exceedences using the rebuttable presumption that the effluent contains a ratio of 50% inorganic arsenic and 50% organic arsenic in total arsenic results. In other words, the equivalent total arsenic concentration threshold has been increased by a factor of 2.0.

Copper

Mass limits

Mean concentration (n=24) = 17.5 ug/L or 0.0175 mg/L

Permit flow limit = 18.0 MGD

Historical average mass = (0.0175 mg/L)(8.34)(18.0 MGD) = 2.63 lbs/day

The 2/09/11 statistical evaluation (Report ID #342) indicates the historical average mass of copper discharged by the permittee's facility is 17.53% of the copper discharged by the facilities on the Penobscot River and its tributaries. However, the Red Shield facility upstream of the permittee was limited by the acute individual allocation resulting in a surplus of 4.17 lbs of copper to be allocated to downstream dischargers where copper is being limited in a permit. In this case, there are three downstream dischargers being limited for copper. Therefore, the permittee's acute segment allocation for copper is calculated as 26% of the copper discharged on the Penobscot River and its tributaries.

The Department has calculated a chronic assimilative capacity 30.51 lbs/day of copper at Bangor. Therefore, the mass segment allocations for copper for the permittee can be calculated as follows:

Monthly average: (Chronic assimilative capacity mass)(% of total copper discharged)
(30.51 lbs/day)(0.2597) = 7.9 lbs/day

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

Concentration limits:

Monthly average mass limit = 7.9 lbs/day

$$\frac{(7.9 \text{ lbs/day})}{(8.34 \text{ lbs/gal})(18.0 \text{ MGD})} = 0.053 \text{ mg/L}$$

(0.053 mg/L)(1,000 ug/mg)(2) = 106 ug/L

Lead

Mass limits

Mean concentration (n=24) = 1.86 ug/L or 0.00186 mg/L

Permit flow limit = 18.0 MGD

Historical average mass = (0.00186 mg/L)(8.34)(18.0 MGD) = 0.28 lbs/day

The 2/09/11 statistical evaluation (Report ID #342) indicates the historical average mass of lead discharged by the permittee's facility is 7.4% of the lead discharged by the facilities on the Penobscot River and its tributaries. Therefore, permittee's segment allocation for lead is calculated as 7.4% of the chronic assimilative capacity of the river at Bangor, the most downstream facility minus the assimilative capacities assigned to the tributaries on the Penobscot River that have permitted discharges. The Department has calculated a chronic assimilative capacity of 5.33 lbs/day of lead at Bangor. Therefore, the mass segment allocation for lead for the permittee can be calculated as follows:

Monthly average mass for lead

(Chronic assimilative capacity mass)(% of total lead discharged)
(5.33 lbs/day)(0.0745)= 0.4 lbs/day

Concentration limits

Monthly average concentration for lead;

$$\frac{0.4 \text{ lbs/day}}{(18.0 \text{ MGD})(8.34 \text{ lbs/gal.})} = 0.0027 \text{ mg/L}$$

(0.0027 mg/L)(1,000 ug/mg)(2) = 5.4 ug/L

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (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 waiving the surveillance level reporting and monitoring for analytical chemistry and priority pollutant testing. As with reduced WET testing, the permittee must file an annual certification with the Department pursuant to Chapter 530 §2(D)(4) and Special Condition I, *06-096 CMR 530(2)(D)(4) Statement For Reduced/Waived Toxics Testing*, of this permit modification, the permittee must annually submit to the Department a written statement evaluating its current status for each of the conditions listed.

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

Cadmium

The previous permitting action established effluent limitations and monitoring requirements for total cadmium. 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 for total cadmium. Therefore, the permittee meets the surveillance level monitoring frequency waiver criteria found at 06-096 CMR 530 (D)(3)(b).

A review of the DMR data for the period February 2006 – February 2011 indicates the daily maximum concentration values have been reported as follows:

Total Cadmium

Value	Limit	Range	Mean	Number of DMRs	Compliance
Daily Maximum, lbs/day	2.9	0 – 0.09	0.02	19	100%
Daily Maximum, ug/L	29	<1 – 0.1	0.25	19	100%

For calculation purposes, results reported as "less than" were considered present at the detection limit.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

h. Whole Effluent Toxicity (WET) & Chemical-Specific Testing (cont'd):

Silver

The previous permitting action established effluent limitations and monitoring requirements for total silver. 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 for total silver. Therefore, the permittee meets the surveillance level monitoring frequency waiver criteria found at 06-096 CMR 530 (D)(3)(b).

A review of the DMR data for the period February 2006 – February 2011 indicates the daily maximum concentration values have been reported as follows:

Total Silver

Value	Limit	Range	Mean	Number of DMRs	Compliance
Daily Maximum, lbs/day	1.1	0 – 0.02	0.04	18	100%
Daily Maximum, ug/L	11	0.1 – 0.7	0.37	19	100%

i. Mercury – On May 23, 2000, pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420, *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 thereby administratively modifying WDL # W001041-5M-D-R by establishing interim monthly average and daily maximum effluent concentration limits of 11.3 parts per trillion (ppt) and 16.9 ppt, respectively, and a minimum monitoring frequency requirement of four (4) tests per year for mercury. It is noted the limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as limitations and monitoring frequencies are regulated separately through 38 M.R.S.A.§ 413 and 06-096 CMR 519. However, the interim limitations remain in effect and enforceable and any modifications to the limits and or monitoring requirements will be formalized outside of this permitting document.

38 M.R.S.A., §420 1-B,(B)(1) states that a facility is not in violation of the ambient water quality criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413, subsection 11. A review of the Department's database for the period February 2006 – February 2011 indicates mercury test results have ranged from 1.5 ppt to 9.6 ppt with an arithmetic mean (n=21) of 5.8 ppt.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A - Secondary Treated Effluent: [See Special Conditions A(1-3)]

j. Transported Wastes – The previous permitting action authorized the permittee to accept and treat up to 20,000 gpd of transported wastes. *Standards For The Addition of Transported Wastes to Wastewater Treatment Facilities*, 06-096 CMR 555 (effective March 9, 2009), limits the quantity of transported wastes received at a facility to 1% of the design capacity of the treatment facility if the facility utilizes a side stream or storage method of introduction into the influent flow, or 0.5% of the design capacity of the facility if the facility does not utilize the side stream or storage method of introduction into the influent flow. A facility may receive more than 1% of the design capacity on a case-by-case basis. The permittee does not utilize a side stream storage method as transported wastes are introduced into the wetwell of the facility. With a design capacity of 18 MGD, 20,000 gpd only represents 0.1% of said capacity. The Department has reviewed and approved the permittee's most current Septage Management Plan and determined that under normal operating conditions, the addition of 20,000 gpd of transported wastes to the facility will not cause or contribute to upset conditions of the treatment process.

k. Total Phosphorus – This permitting action is establishing total phosphorus monitoring requirements during the summer months (June – September). The information collected will assist the Department in its ongoing modeling efforts to determine the assimilative capacity for total phosphorus on the main stem of the Penobscot River.

OUTFALL #001B - Primary Treated Waste Water: [See Special Condition A(4)]

Primary Treated Effluent (Outfall #001B):

For those flows in excess of the daily and peak hourly design flows received at the treatment facility which are greater than that which can be treated to a secondary level of treatment, the Department has made a best professional judgment that primary treatment and disinfection constitutes appropriate and best practicable treatment. The reporting requirements for the parameters in Special Condition A(4) of this permit (Flow, Surface Loading Rate, Settleable Solids, Overflow Occurrences and BOD5 and TSS percent removal rates) and the daily maximum limits for *E. coli* bacteria, pH and total residual chlorine were established in the 11/01/96 and 2/12/02 permits based on Department best professional judgment of the parameters deemed necessary to evaluate the performance of the primary treatment process and are consistent with the reporting requirements and limitations established in other MEPDES permits with secondary bypass capabilities. It is noted the secondary treated waste water and primary treated waste waters (during wet weather events) are disinfected independently and the primary treated waste stream combines with the secondary treated waste stream after the chlorine contact chamber.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001B - Primary Treated Waste Water: [See Special Condition A(4)]

l. Flow – This permitting action is carrying forward the monthly average and daily maximum flow reporting requirements from the previous permitting action.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Flow

Value	Limit (MGD)	Range (MGD)	Average (MGD)	Number of DMRs
Monthly Average	Report	0.02 – 6.5	2.4	39
Daily Maximum	Report	0.06 – 7.9	3.4	39

m. Surface Loading Rate – This permitting action is carrying forward the daily maximum surface loading rate reporting requirements.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Surface Loading Rate

Value	Limit (gpd/sf)	Range (gpd/sf)	Average (gpd/sf)	Number of DMRs
Daily Maximum	Report	1,502 – 6,297	2,281	38

n. Overflow Use, Occurrences – This permitting action is carrying forward the monthly average overflow use occurrences reporting requirements.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Overflow Use, Occurrences

Value	Limit (#days)	Range (#days)	Average (#days)	Number of DMRs
Daily Maximum	Report	1 – 6	2	39

o. BOD5 and TSS Percent Removals: This permitting action is carrying forward the reporting requirements for BOD5 and TSS percent removals from the previous permitting action.

A review of the DMR data for the period February 2006 – February 2011 indicates the BOD5 and TSS percent removals ranged from -86% to 44% and -12% to 70%, respectively.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001B - Primary Treated Waste Water: [See Special Condition A(4)]

p. Settleable Solids: This permitting action is carrying forward the daily maximum settleable solids reporting requirement from the previous permitting action. A review of the DMR data for the period February 2006 – February 2011 indicates the daily maximum settleable solids concentration values reported have ranged from <0.1 mL/L to 4.0 mL/L.

q. *E. coli*: The previous permitting action established a "report only" daily maximum reporting requirement for *E. coli* that is being carried forward in this permitting action.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

***E. coli* bacteria**

Value	Limit (#col/100 mL)	Range (#col/100 ml)	Arith. Mean (#col/100 mL)	Number of DMRs	Compliance
Daily Maximum	Report	1 – 1,512	485	7	N/A

r. Total residual chlorine (TRC): This permitting action is carrying forward the "report only" daily maximum TRC reporting requirement from the previous permitting action.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Total Residual Chlorine

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)	Number of DMRs	Compliance
Daily Maximum	Report	0.01 - > 5.5	1.6	6	N/A

For calculation purposes, results reported as "greater than" were considered present at the detection limit.

s. pH – This permitting action is carrying forward the pH daily maximum reporting requirements from the previous permitting action. A review of the DMR data for the period February 2006 – February 2011 (n=33) indicates the pH range was 6.6 SU to 7.5 SU.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001C - Combined (Primary plus Secondary): [See Special Condition A(5)]

This outfall is not a physically distinct outfall but rather an administrative outfall to track compliance when the separate waste streams, primary (outfall #001B) and secondary (Outfall #001A) are combined and physically discharged through Outfall #001A. The permittee has chosen to demonstrate compliance with the daily limits for *E. coli* bacteria, total residual chlorine and pH for the combined waste streams by sampling each waste stream independently and then calculating the discharge values for said parameters.

t. Flow – This permitting action is carrying forward the monthly average and daily maximum flow reporting requirements from the previous permitting action.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Flow

Value	Limit (MGD)	Range (MGD)	Average (MGD)	Number of DMRs
Daily Maximum	Report	8.0 – 38.5	29	39

u. BOD5 and TSS: This permitting action is carrying forward the "report only" monthly average BOD5 and TSS reporting requirements.

A review of the DMR data for the period February 2006 – February 2011 indicates the daily maximum mass and concentration values for BOD5 & TSS have been reported as follows:

BOD_5 Mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)	Number of DMRs	Compliance
Daily Maximum	Report	1,213 – 7,873	4,744	33	N/A

BOD_5 Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)	Number of DMRs	Compliance
Daily Maximum	Report	7 – 36	22	34	N/A

TSS mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)	Number of DMRs	Compliance
Daily Maximum	Report	1,087 – 9,923	5,874	36	N/A

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001C - Combined (Primary plus Secondary): [See Special Condition A(5)]

TSS concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)	Number of DMRs	Compliance
Daily Maximum	Report	2 – 44	25	36	N/A

The permittee's BOD5 percent removal rates for the period of February 2006 – February 2011 ranged from 66% - 93% (n=52) and TSS from 67% - 96%, respectively.

v. Settleable Solids – This permitting action is carrying forward the daily maximum settleable solids reporting requirement from the previous permitting action.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Settleable Solids

Value	Limit (mL/L)	Range (mL/L)	Average (mL/L)	Number of DMRs
Daily Maximum	Report	< 0.1 – 0.9	0.1	33

For calculation purposes, results reported as "greater than" were considered present at the detection limit.

w. <u>*E. coli*</u>: *Standards for the Classification of Fresh Surface Waters*, 38 M.R.S.A, *§*465(2), establishes a daily maximum ambient water quality based *E. coli* threshold of 236 colonies/100 mL. However, the Department has developed an alternative approach to calculating daily maximum limits that considers the dilution of the receiving water for freshwater dischargers. Based on this approach, the Department has determined that any facility in Class B waters with a dilution of at least 1.1:1 would carry forward their existing end-of-pipe daily maximum *E. coli* limitation of 427 colonies/100mL. This permitting action is carrying forward the daily maximum *E. coli* bacteria limit of 427 colonies/100 mL.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

***E. coli* bacteria**

Value	Limit (#col/100 mL)	Range (#col/100 ml)	Arith. Mean (#col/100 mL)	Number of DMRs	Compliance
Daily Maximum	427	0 – 157	51	7	100%

This permitting action is carrying forward the daily maximum *E. coli* reporting limits from the previous permitting action.

8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001C - Combined (Primary plus Secondary): [See Special Condition A(5)]

x. Total residual chlorine (TRC): This permitting action is carrying forward the daily maximum TRC reporting requirement and limitation of 1.0 mg/L from the previous permitting action.

A summary of the monthly Discharge Monitoring Report (DMR) data for the period February 2006 – February 2011 indicates the following:

Total Residual Chlorine

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)	Number of DMRs	Compliance
Daily Maximum	1.0	0.03 – 0.5	0.2	7	100%

y. pH – This permitting action is carrying forward the pH daily maximum reporting requirements and limitations of 6.0 SU – 9.0 SU from the previous permitting action.

A review of the DMR data for the period February 2006 – February 2011 (n=33) indicates the pH range was 6.6 SU to7.4 SU.

9. PRETREATMENT

The permittee is required to administer a pretreatment program based on the authority granted under Federal regulations 40 CFR §122.44(j), 40 CFR Part 403 and section 307 of the Federal Water Pollution Control Act (Clean Water Act) and *Pretreatment Program*, 06-096 CMR 528. The permittee's pretreatment program received EPA approval on July 19, 1985 and as a result, appropriate pretreatment program requirements were incorporated into the previous National Pollutant Discharge Elimination System (NPDES) permit which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued. Since issuance of the previous NPDES permit, the State of Maine has been authorized by the EPA to administer the federal pretreatment program as part of receiving authorization to administer the NPDES program.

Upon issuance of this MEPDES permit, the permittee is obligated to modify (if applicable) its pretreatment program to be consistent with current federal regulations and State rules. Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce Department approved specific effluent limits (technically-based local limits - last approved by the EPA on May 13, 1999; (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with federal regulations and State rules; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant noncompliance for industrial users; and (6) establish a definition of and track significant industrial users. These requirements are necessary to ensure continued compliance with the POTW's MEPDES permit and its biosolids use or disposal practices.

9. PRETREATMENT (cont'd)

In addition to the requirements described above, this permit requires that within 180 days of the permit's effective date, the permittee shall submit to the Department in writing, a description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal and State pretreatment regulations and rules respectively. These requirements are included in the permit (Special Condition O) to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, by December 1 of each calendar year, the permittee must submit a pretreatment report detailing the activities of the program for the twelve month period ending 60 days prior to the due date.

10. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The expansion of the waste water treatment facility and improvements in the collection system have substantially improved the capacity of the plant to treat current combined sewer flows as well as improve the treatment of waste waters before being discharged to the receiving waters. As permitted, the Department of Environmental Protection has determined the existing water uses will be maintained and protected and the treatment plant discharge will not cause or contribute to the failure of the waterbodies to meet standards for Class B and Class C classifications.

If ambient water quality monitoring or future modeling determines that at full permitted discharge limits, the permittee's discharge is causing or contributing to the non-attainment of standards, this permit will be re-opened per Special Condition Q, *Reopening of Permit For Modifications*, to impose more stringent limitations to meet water quality standards.

11. PUBLIC COMMENTS

Public notice of this application was made in the *Bangor Daily News* newspaper on or about July 7 and July 8, 2006. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses,* 06-096 CMR 522 (effective January 12, 2001).

12. DEPARTMENT CONTACTS

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

Phyllis Arnold Rand
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017Tel: (207) 287-7658 Fax: (207) 287-3435
e-mail: phyllis.a.rand@maine.gov

13. RESPONSE TO COMMENTS

During the period of March April 11, 2011, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued for the discharge(s) from the permittee's facility. The Department received written comments from DEP staff (Staff), from the permittee (Bangor) in a letter dated May 10, 2011, and from the National Marine Fisheries Service (NMFS) in a letter sent to the Department on April 22, 2011. Responses to comments are as follows:

Permit Comments:

Comment #1 (Staff): *Change the monetary cap from $3,000 to $1,000 in Special Condition H to reflect discussions at Penobscot River Stakeholders' Meeting on April 27, 2011.*

Response #1: The monetary cap has been changed from $3,000 to $1,000 in Special Condition H.

Comment #2 (Staff): *Add CSO composite sampling language to Footnote #10 in permit Special Condition A to maintain consistency with other CSO communities.*

Response #2: The CSO composite sampling language will be added to permit Special Condition A, Footnote #10.

Comment #3(NMFS): *In summary, the best available information suggests that the discharge of primary and secondary treated wastewater from the Bangor facility are not likely to result in more than a minor detrimental effect to Atlantic salmon, shortnose sturgeon, or designated critical habitat for Atlantic salmon. However, NMFS requires additional information concerning CSO discharges at the Bangor facility to fully understand the potential effects of these discharges on these species and critical habitat. As such, NMFS recommend that the final permit require using two different surrogate species for surveillance-level WET testing as well as further monitoring of CSO discharges so as to better assess the chemical constituents and concentration of the discharges, and their toxicity to Atlantic salmon, shortnose sturgeon, or designated critical habitat for Atlantic salmon.*

NMFS, USFWS, and EPA are currently engaged in section 7 consultations on EPA's water quality standards and aquatic life criteria. Those consultations may reveal effects of the EPA and Maine's program that NMFS did not consider in this evaluation, or they may change national water quality criteria and standards in ways that affect the water quality program for the State of Maine. Either outcome might require NMFS to reconsider the determinations and recommendations made in this letter.

Response #3: The Department has determined that the brook trout and water flea are appropriate surrogate species for Maine's freshwater WET tests. With regard to WET testing of the remaining nine CSOs, the Department is working with EPA and the permittee on the identification, control and elimination of CSOs as these are considered to be the most effective long-term uses of the permittee's resources.

13. RESPONSE TO COMMENTS (cont'd)

Comment #4(Bangor): *We understand discussions are taking place within the Maine Department of Environmental Protection (MEDEP) concerning the 15% reserve set aside when determining the ambient water quality criteria for a particular water body. The City encourages the MEDEP to lower this reserve as there is little development on the river and the permits can be reopened in the future to accommodate any increase in loading of any pollutant to the river. Lowering the reserve likely will result in fewer violations and reasonable potential to violate conditions along with the associated regulatory burden without any increased risk to the water quality of the Penobscot River.*

Response #4: The Department is addressing this issue through the Legislative rulemaking process; however, the rule is currently in effect and must be reflected in the permit.

Comment #5 (Bangor): *Page 1 of 29: Application paragraph second sentence. Seven (7) combined sewer overflow structures should be changed to nine (9) combined sewer overflow structures. (See comment on Page 3 of 29, 4., Page 4 of 29 Action, Page 16 of 29, F., Page 22 of 29, Special Condition N.)*

Response #5: The above-referenced paragraph (Page 1 of 29) describes the conditions of the 2002 permit; however, the sentence in the Proposed Draft is incorrect. The sentence will be corrected to indicate twelve (12) combined sewer overflow structures. As for the remainder of the references, the Department agrees and the above changes will be reflected in the permit.

Comment #6 (Bangor): *Page 2 of 29, 4., Special Conditions A. Outfall #001B, Page 10 of 29 Effluent receiving primary treatment, Page 14 of 29, 10: We request that the Primary CSO Influent composite sampler be removed and the City will use the Primary Influent composite sampler (downstream from degritting unit) to determine percent removal of* BOD^5 [sic] *and TSS through the primary tank #1 during wet weather. This is just a point of clarification as the permit appears to allow the sampling regimen mentioned above.*

Response #6: The Department agrees and the changes will be reflected in the permit.

Comment #7 (Bangor): *Page 2 of 29, 15: Eliminating three (3) permitted combined sewer overflows should be changed to four (4) permitted.*

Response #7: The Department agrees and the change will be reflected in the permit.

Comment #8 (Bangor): *Page 13 of 29 A. 8. (Fourth sentence): While the city agrees to sample and analyze the effluent for total arsenic, we disagree with using a total arsenic concentration as a threshold and means to establish an inorganic arsenic concentration for regulatory compliance and enforcement. This position has no scientific foundation; therefore the fourth and fifth sentences should be deleted.*

Response #8: The Department is addressing the human health criteria for arsenic through the Legislative rulemaking process; however, *Surface Water Quality Criteria for Toxic Pollutants,* 06-096 CMR 584 [October 2005] is currently in effect and must be reflected in the permit.

13. RESPONSE TO COMMENTS (cont'd)

Comment #9 (Bangor): *Page 22 of 29, Outfall List: We request that the Cemetery CSO remain on the list as outfall #016. In a letter dated May 10, 2011, to Mr. David Breau, we are requesting that the Carr Brook CSO be relicensed as outfall #020. The Carr Brook sewer subsection had separation work done many years ago. However, there have been indications that the subsection is continuing to experience increased flows and overflows from manholes during wet weather. Therefore we are requesting the CSO point be relicensed.*

Response #9: Based on the current conditions, the Department has determined that both CSOs should be regulated as CSOs until eliminated in Phase 2 of the permittee's *CSO Long-term Control Plan*.

Comment #10 (Staff): *Correct the typographical errors: Page 6 of 29: Inorganic Arsenic monthly average limitation should be 1.8 ug/L; Page 13 of 29: Fourth sentence should read, "…3.6 ug/L;"*

Response #10: Corrections will be made to the above-referenced sections.

Fact Sheet Comments:

Comment #11 (Bangor): *Page 1 of 33: Application paragraph second sentence: Seven (7) combined sewer overflow structures should be changed to nine (9) combined sewer overflow structures.*

Response #11: The above-referenced paragraph describes the conditions of the 2002 permit; however, the sentence in the Proposed Draft is incorrect. The sentence will be corrected to indicate twelve (12) combined sewer overflow structures.

Comment #12 (Bangor): *Page 4 of 33, 15: Eliminating three (3) permitted combined sewer overflows should be changed to four (4) permitted.*

Response #12: The Department agrees and the change will be reflected in the Fact Sheet and in the permit.

Comment #13 (Bangor): *Page 18-20 of 33 Arsenic (inorganic): Possible violations/enforcement actions based on an assumption that the ratio of organic to inorganic arsenic is 50/50 are unacceptable. The Department admits no approved test procedure exists for the speciation of arsenic, so haw can a ratio be determined based on acceptable science. The permit limit for inorganic arsenic should be removed until an approved test method is established.*

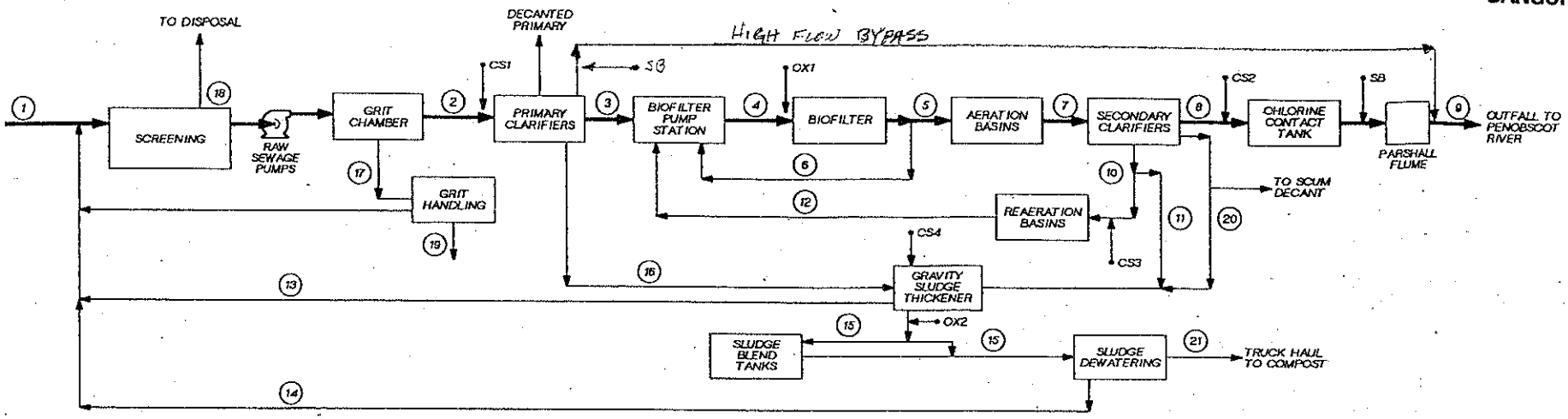
Response #13: The Department is addressing the human health criteria for arsenic through the Legislative rulemaking process; however, *Surface Water Quality Criteria for Toxic Pollutants,* 06-096 CMR 584 [October 2005] is currently in effect and must be reflected in the permit.

Comment #14 (Bangor): *Page 26 of 33 Outfall #001B. See comment on page 2 of 29.*

Response #14: The Department agrees and the change will be reflected in the Fact Sheet.

ATTACHMENT A

BANGOR WWTP
760 MAIN STREET
BANGOR, ME 04401



	STREAM IDENTIFICATION	FLOW MAX MO. (MGD)	TSS MAX MO. (lb/D)	BOP MAX MO. (lb/D)
1	RAW SEWAGE	18.9	43,800	19,000
2	PRIMARY INFLUENT	19.2	27,400	21,500
3	PRIMARY EFFLUENT	19.2	13,700	17,100
4	ABF INFLUENT	37.2	——	——
5	ABF EFFLUENT	28.2	——	——
6	ABF RECYCLE	9.0	——	——
7	AERATION BASIN EFFLUENT	28.2	——	——
8	SECONDARY EFFLUENT	18.9	3200	900
9	PLANT EFFLUENT	17.8	3000	840
10	RETURN ACTIVATED SLUDGE	9.0	——	——
11	WASTE ACTIVATED SLUDGE	0.2	15,500	——
12	REAERATION BASIN EFFLUENT	9.0	——	——
13	GRAVITY THICKENER OVERFLOW	1.3	1500	470
14	BFP FILTRATE	0.1	1400	400

	STREAM IDENTIFICATION	FLOW MAX MO. (MGD)	TSS MAX MO. (lb/D)	BOP MAX MO. (lb/D)
15	THICKENED SLUDGE	0.1	27,700	——
16	PRIMARY SLUDGE	0.1	13,700	——
17	GRIT TO CYCLONES	0.2	19,100	——
18	SCREENINGS	——	180*	——
19	GRIT TO DISPOSAL	——	17,190	——
20	SECONDARY SCUM	0.02	——	——
21	DEWATERED SLUDGE	——	26,500	——

* CU FT/DAY

CHEMICAL FEED LOCATIONS	MAX MONTH lb/D	MAX MONTH MG/L
• CS1	900	6
• CS2	1200	8
• CS3	380	5
• CS4	100	40
• SB	450	3
• OX1	2400	15
• OX2	140	40

LEGEND

CS - CHLORINE SOLUTION
OX - OXIDANT (HYDROGEN PEROXIDE)
SB - SODIUM BISULFATE

CH2M HILL

DSGN J. HAWLEY
DR 6561G010.DGN J.L. HART
CHK J.E. HOWEY
APVD J.L. HAWLEY

NO.	DATE	REVISION	BY	APVD

BAR IS ONE INCH ON ORIGINAL DRAWING.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

PRIMARY WASTEWATER TREATMENT PLANT UPGRADE
CITY OF BANGOR, MAINE

GENERAL
PROCESS FLOW DIAGRAM

SHEET 13
DWG NO. G-13
DATE SEPT. 19
PROJ NO. 805259.A0

ATTACHMENT B

WET TEST REPORT

Data for tests conducted for the period

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

BANGOR

NPDES= ME010078 Effluent Limit: Acute (%) = 0.954 Chronic (%) = 0.861

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	100	07/09/2006	0.954		
TROUT	C_NOEL	100	07/09/2006	0.861		
WATER FLEA	A_NOEL	16.70	07/09/2006	0.954		
WATER FLEA	C_NOEL	3.70	07/09/2006	0.861		

ATTACHMENT C

PRIORITY POLLUTANT DATA SUMMARY

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

Facility Name: **BANGOR** NPDES: **ME0100781**

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
02/15/2006	9.73	7.01	20	9	0	0	0	11	0	F	0
02/23/2006	NR	NR	5	5	0	0	0	0	0	F	0
02/24/2006	NR	NR	1	0	0	0	0	1	0	F	0
02/28/2006	NR	NR	4	4	0	0	0	0	0	F	0
05/09/2006	9.74	6.85	12	9	0	0	0	3	0	F	0
05/16/2006	NR	NR	5	4	0	0	0	1	0	F	0
05/17/2006	NR	NR	4	4	0	0	0	0	0	F	0
05/18/2006	NR	NR	1	1	0	0	0	0	0	F	0
07/11/2006	NR	NR	129	9	28	46	25	10	11	F	0
07/18/2006	NR	NR	5	4	0	1	0	0	0	F	0
07/20/2006	NR	NR	6	5	0	0	0	1	0	F	0
11/07/2006	13.91	8.92	14	9	0	0	0	5	0	F	0
11/13/2006	NR	NR	1	1	0	0	0	0	0	F	0

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
11/15/2006	NR	NR	5	5	0	0	0	0	0	F	0
11/17/2006	NR	NR	1	1	0	0	0	0	0	F	0
11/21/2006	NR	NR	3	2	0	0	0	1	0	F	0
02/28/2007	NR	NR	2	2	0	0	0	0	0	F	0
03/05/2007	NR	NR	6	6	0	0	0	0	0	F	0
05/10/2007	NR	NR	8	8	0	0	0	0	0	F	0
05/15/2007	NR	NR	1	1	0	0	0	0	0	F	0
08/06/2007	NR	NR	8	8	0	0	0	0	0	F	0
08/08/2007	NR	NR	1	1	0	0	0	0	0	F	0
08/31/2007	NR	NR	2	2	0	0	0	0	0	F	0
10/29/2007	NR	NR	1	1	0	0	0	0	0	F	0
10/30/2007	NR	NR	4	4	0	0	0	0	0	F	0
10/31/2007	NR	NR	3	3	0	0	0	0	0	F	0
02/04/2008	NR	NR	2	2	0	0	0	0	0	F	0
02/06/2008	NR	NR	4	4	0	0	0	0	0	F	0

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
02/29/2008	NR	NR	2	2	0	0	0	0	0	F	0
05/27/2008	NR	NR	4	4	0	0	0	0	0	F	0
05/28/2008	NR	NR	2	2	0	0	0	0	0	F	0
05/31/2008	NR	NR	2	2	0	0	0	0	0	F	0
08/15/2008	NR	NR	8	8	0	0	0	0	0	F	0
08/18/2008	NR	NR	1	1	0	0	0	0	0	F	0
11/15/2008	NR	NR	4	4	0	0	0	0	0	F	0
11/17/2008	NR	NR	2	2	0	0	0	0	0	F	0
01/28/2009	NR	NR	8	8	0	0	0	0	0	F	0
02/01/2009	NR	NR	1	0	0	1	0	0	0	F	0
05/08/2009	NR	NR	6	6	0	0	0	0	0	F	0
05/12/2009	NR	NR	2	2	0	0	0	0	0	F	0
05/16/2009	NR	NR	1	0	0	1	0	0	0	F	0
08/04/2009	NR	NR	1	1	0	0	0	0	0	F	0
08/05/2009	NR	NR	2	2	0	0	0	0	0	F	0

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
08/06/2009	NR	NR	5	5	0	0	0	0	0	F	0
08/11/2009	NR	NR	1	0	0	1	0	0	0	F	0
11/11/2009	NR	NR	3	3	0	0	0	0	0	F	0
11/13/2009	NR	NR	1	1	0	0	0	0	0	F	0
11/15/2009	NR	NR	5	5	0	0	0	0	0	F	0
11/18/2009	NR	NR	1	0	0	1	0	0	0	F	0
02/11/2010	NR	NR	8	8	0	0	0	0	0	F	0
02/15/2010	NR	NR	1	0	0	1	0	0	0	F	0
02/16/2010	NR	NR	1	1	0	0	0	0	0	F	0
05/07/2010	NR	NR	2	2	0	0	0	0	0	F	0
05/10/2010	NR	NR	1	0	0	1	0	0	0	F	0
05/11/2010	NR	NR	6	6	0	0	0	0	0	F	0
05/12/2010	NR	NR	1	1	0	0	0	0	0	F	0
08/13/2010	NR	NR	1	0	0	1	0	0	0	F	0
08/16/2010	NR	NR	8	8	0	0	0	0	0	F	0

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
08/18/2010	NR	NR	1	1	0	0	0	0	0	F	0

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
11/19/2010	NR	NR	6	6	0	0	0	0	0	F	0

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group						Clean	Hg
				M	V	BN	P	O	A		
11/23/2010	NR	NR	2	2	0	0	0	0	0	F	0

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

Parameter: ALDRIN	Test date	Result (ug/l)	Lsthan
	07/11/2006	0.050	Y
Parameter: ALUMINUM	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	300.000	Y
	02/24/2006	300.000	N
	05/16/2006	300.000	N
	07/11/2006	65.000	N
	07/20/2006	65.000	N
	11/07/2006	82.000	N
	11/21/2006	82.000	N
Parameter: AMMONIA	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	13000.000	N
	05/09/2006	2400.000	N
	07/11/2006	970.000	N
	11/07/2006	8100.000	N
Parameter: ANTHRACENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: ARSENIC	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	5.000	Y
	02/28/2006	5.000	N
	05/09/2006	5.000	Y
	05/16/2006	5.000	N
	07/11/2006	2.000	N
	07/20/2006	2.000	N
	11/07/2006	1.700	N
	11/17/2006	1.700	N
	05/10/2007	3.700	N
	08/06/2007	2.000	N
	08/15/2008	4.900	N
	11/11/2009	3.200	N
	02/11/2010	3.000	N
	05/11/2010	4.000	N
	08/16/2010	6.000	N
	11/19/2010	1.800	N
Parameter: B-BHC	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: B-ENDOSULFAN	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: BENZENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: BENZIDINE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	25.000	Y
Parameter: BENZO(A)ANTHRACENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	8.000	Y
Parameter: BENZO(A)PYRENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	3.000	Y
Parameter: BENZO(G,H,I)PERYLENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y

	11/23/2010	0.100	N
Parameter: CALCIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	57400.000	N
	07/11/2006	41000.000	N
	11/07/2006	54300.000	N
Parameter: CARBON TETRACHLORIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: CHLORDANE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.100	Y
Parameter: CHLORINE	**Test date**	**Result (ug/l)**	**Lsthan**
	05/09/2006	20.000	N
Parameter: CHLOROBENZENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: CHLORODIBROMOMETHAI	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	3.000	Y
Parameter: CHLOROETHANE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: CHLOROFORM	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: CHROMIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	10.000	Y
	02/23/2006	10.000	N
	05/09/2006	1.000	N
	05/17/2006	1.000	N
	07/11/2006	2.000	N
	07/18/2006	2.000	N
	11/07/2006	1.600	N
	11/15/2006	1.600	N
	03/05/2007	3.000	N
	05/10/2007	0.600	N
	08/06/2007	0.800	N
	10/30/2007	1.200	N
	02/06/2008	1.000	N
	05/27/2008	1.600	N
	08/15/2008	1.000	N
	11/15/2008	0.700	N
	01/28/2009	2.400	N
	05/08/2009	1.200	N
	08/06/2009	1.000	N
	11/15/2009	1.400	N
	02/11/2010	0.700	N
	05/11/2010	1.100	N
	08/16/2010	0.800	N
	11/19/2010	3.500	N
Parameter: CHRYSENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	3.000	Y
Parameter: COPPER	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	21.000	N
	02/23/2006	21.000	N

05/09/2006	21.000	N
05/17/2006	21.000	N
07/11/2006	13.000	N
07/18/2006	13.000	N
11/07/2006	20.000	N
11/15/2006	20.000	N
03/05/2007	14.000	N
05/10/2007	13.200	N
08/06/2007	17.600	N
10/30/2007	15.800	N
02/06/2008	19.500	N
05/27/2008	15.000	N
08/15/2008	11.600	N
11/15/2008	11.000	N
01/28/2009	19.800	N
05/08/2009	21.500	N
08/06/2009	14.600	N
11/15/2009	13.700	N
02/11/2010	13.900	N
05/11/2010	17.100	N
08/16/2010	15.800	N
11/19/2010	36.700	N

Parameter: CYANIDE

Test date	Result (ug/l)	Lsthan
02/15/2006	5.000	Y
02/28/2006	5.000	N
05/09/2006	5.000	Y
05/18/2006	5.000	N
07/11/2006	5.000	Y
07/20/2006	5.000	N
11/07/2006	5.000	Y
11/13/2006	5.000	N
05/15/2007	10.000	N
08/08/2007	5.000	N
08/18/2008	5.000	N
01/28/2009	5.000	N
05/12/2009	5.000	N
08/06/2009	9.800	N
11/13/2009	5.000	N
02/16/2010	5.000	N
05/12/2010	5.000	N
08/18/2010	12.000	N

Parameter: D-BHC

Test date	Result (ug/l)	Lsthan
07/11/2006	0.050	Y

Parameter: DIBENZO(A,H)ANTHRACE

Test date	Result (ug/l)	Lsthan
07/11/2006	5.000	Y

Parameter: DICHLOROBROMOMETHAI

Test date	Result (ug/l)	Lsthan
07/11/2006	3.000	Y

Parameter: DIELDRIN

Test date	Result (ug/l)	Lsthan
07/11/2006	0.050	Y

Parameter: DIETHYL PHTHALATE

Test date	Result (ug/l)	Lsthan
07/11/2006	5.000	Y

Parameter: DIMETHYL PHTHALATE	Test date	Result (ug/l)	Lsthan
	07/11/2006	5.000	Y
Parameter: DI-N-BUTYL PHTHALATE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: DI-N-OCTYL PHTHALATE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: ENDOSULFAN SULFATE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.100	Y
Parameter: ENDRIN	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: ENDRIN ALDEHYDE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: ETHYLBENZENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: FLUORANTHENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: FLUORENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: G-BHC	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: HEPTACHLOR	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: HEPTACHLOR EPOXIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	0.050	Y
Parameter: HEXACHLOROBENZENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	2.000	Y
Parameter: HEXACHLOROBUTADIENE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	2.000	Y
Parameter: HEXACHLOROCYCLOPENT	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: HEXACHLOROETHANE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	2.000	Y
Parameter: INDENO(1,2,3-CD)PYREN	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: ISOPHORONE	**Test date**	**Result (ug/l)**	**Lsthan**
	07/11/2006	5.000	Y
Parameter: LEAD	**Test date**	**Result (ug/l)**	**Lsthan**
	02/15/2006	3.000	Y
	02/23/2006	3.000	N
	05/09/2006	1.700	Y
	05/17/2006	1.700	N
	07/11/2006	4.000	N
	07/18/2006	4.000	N
	11/07/2006	0.700	N

11/15/2006	0.700	N
03/05/2007	1.060	N
05/10/2007	0.900	N
08/06/2007	0.800	N
10/30/2007	1.100	N
02/06/2008	1.700	N
05/27/2008	0.970	N
08/15/2008	2.000	N
11/15/2008	1.000	N
01/28/2009	1.050	N
05/08/2009	2.000	N
08/06/2009	2.000	N
11/15/2009	1.000	N
02/11/2010	1.000	N
05/11/2010	0.900	N
08/16/2010	1.000	N
11/19/2010	9.000	N

Parameter: MAGNESIUM

Test date	Result (ug/l)	Lsthan
02/15/2006	11000.000	N
07/11/2006	7470.000	N
11/07/2006	8700.000	N

Parameter: MERCURY

Test date	Result (ug/l)	Lsthan
02/14/2006	0.009	N
02/20/2006	0.009	N
05/09/2006	0.005	N
06/03/2006	0.005	N
07/11/2006	0.004	N
07/20/2006	0.004	N
11/06/2006	0.007	N
12/04/2006	0.007	N
01/30/2007	0.008	N
02/23/2007	0.008	N
05/08/2007	0.004	N
05/16/2007	0.004	N
08/07/2007	0.007	N
10/22/2007	0.011	N
11/07/2007	0.011	N
01/29/2008	0.010	N
02/07/2008	0.010	N
05/20/2008	0.006	N
06/02/2008	0.006	N
08/11/2008	0.005	N
08/16/2008	0.005	N
11/12/2008	0.005	N
11/15/2008	0.005	N
01/27/2009	0.009	N
02/05/2009	0.009	N
05/08/2009	0.005	N
09/15/2009	0.005	N
09/24/2009	0.005	N
11/03/2009	0.006	N
11/07/2009	0.006	N
02/11/2010	0.002	N
05/03/2010	0.003	N

ATTACHMENT D

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMORANDUM

DATE: October 2008

TO: Interested Parties

FROM: Dennis Merrill, DEP

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

****

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

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

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

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

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

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

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

Maine Department of Environmental Protection

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Maine Department of Environmental Protection

Working Definitions of Terms Used in the DeTox System.

Allocation. The amount of pollutant loading set aside for a facility. Separate amounts are set for each *water quality criterion.* Each pollutant having a history of being discharged will receive an allocation, but not all allocations become *effluent limits.* Allocation may be made in three ways: *historical allocation, individual allocation* or *segment allocation.*

Assimilative capacity. The amount of a pollutant that river segment can safely accept from point source discharges. It is determined for the most downstream point in a river segment using the *water quality criterion* and river flow. Separate capacities are set for acute, chronic and human health criteria as applicable for each pollutant. Calculation of this capacity includes factors for *reserve* and *background* amounts.

Background. A concentration of a pollutant that is assumed to be present in a receiving water but not attributable to discharges. By rule, this is set as a rebuttable presumption at 10% of the applicable *water quality criterion.*

Effluent limit. A numeric limit in a discharge permit specifically restricting the amount of a pollutant that may be discharged. An effluent limit is set only when the highest discharge, including an adjustment for *reasonable potential*, is greater than a facility's water quality based *allocation* for a pollutant.

Historical allocation (or *RP history*). One of three ways of developing an *allocation.* The facility's average history of discharges, in pounds at design flow, is multiplied by the appropriate *reasonable potential* factor. An allocation using this method does not become an *effluent limit.*

Historical discharge percentage. For each pollutant, the average discharge concentration for each facility in a segment is multiplied by the permitted flow (without including a *reasonable potential* factor). The amounts for all facilities are added together and a percent of the total is figured for each facility. When a facility has no detectable concentrations, that pollutant is assumed to be not present and it receives no percentage.

Individual allocation. One of three ways of developing an *allocation.* The facility's single highest discharge on record multiplied by the appropriate *reasonable potential* factor is compared to a water quality based quantity with an assumption that the facility is the only point source to that receiving water. If the RP-adjusted amount is larger, the water quality amount may become an *effluent limit.*

Less than. A qualification on a laboratory report indicating the concentration of a pollutant was below a certain concentration. Such a result is evaluated as being one half of the Department's reporting limit in most calculations.

Reasonable potential (RP). A statistical method to determine the highest amount of a pollutant likely to be present at any time based on the available test results. The method produces a value or RP factor that is multiplied by test results. The method relies on an EPA guidance document, and considers the coefficient of variation and the number of tests. Generally, the fewer number of tests, the higher the RP factor.

Reserve. An assumed concentration of a pollutant that set aside to account for non-point source of a pollutant and to allow new discharges of a pollutant. By rule this is set at 15% of the applicable *water quality criterion.*

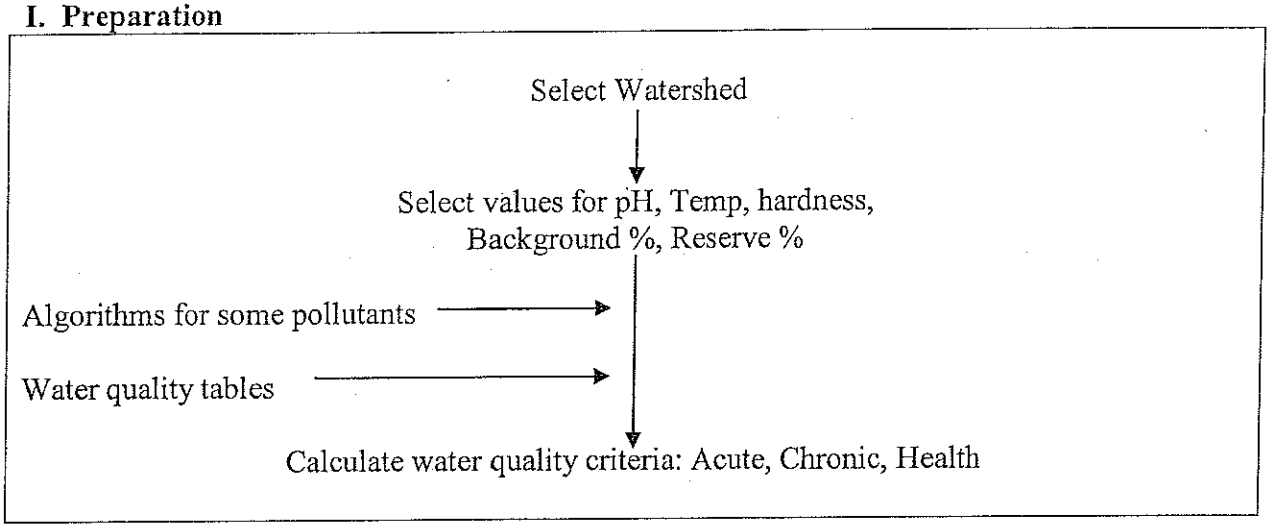
Segment allocation. One of three ways of developing an *allocation.* The amount is set by multiplying a facility's *historical discharge percentage* for a specific pollutant by the *assimilative capacity* for that pollutant and criterion. A facility will have different allocation percentages for each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

Tributary. A stream flowing into a larger one. A total pollutant load is set by adding the all facilities *allocations* on the tributary and treating this totaled amount as a "point source" to the next larger segment.

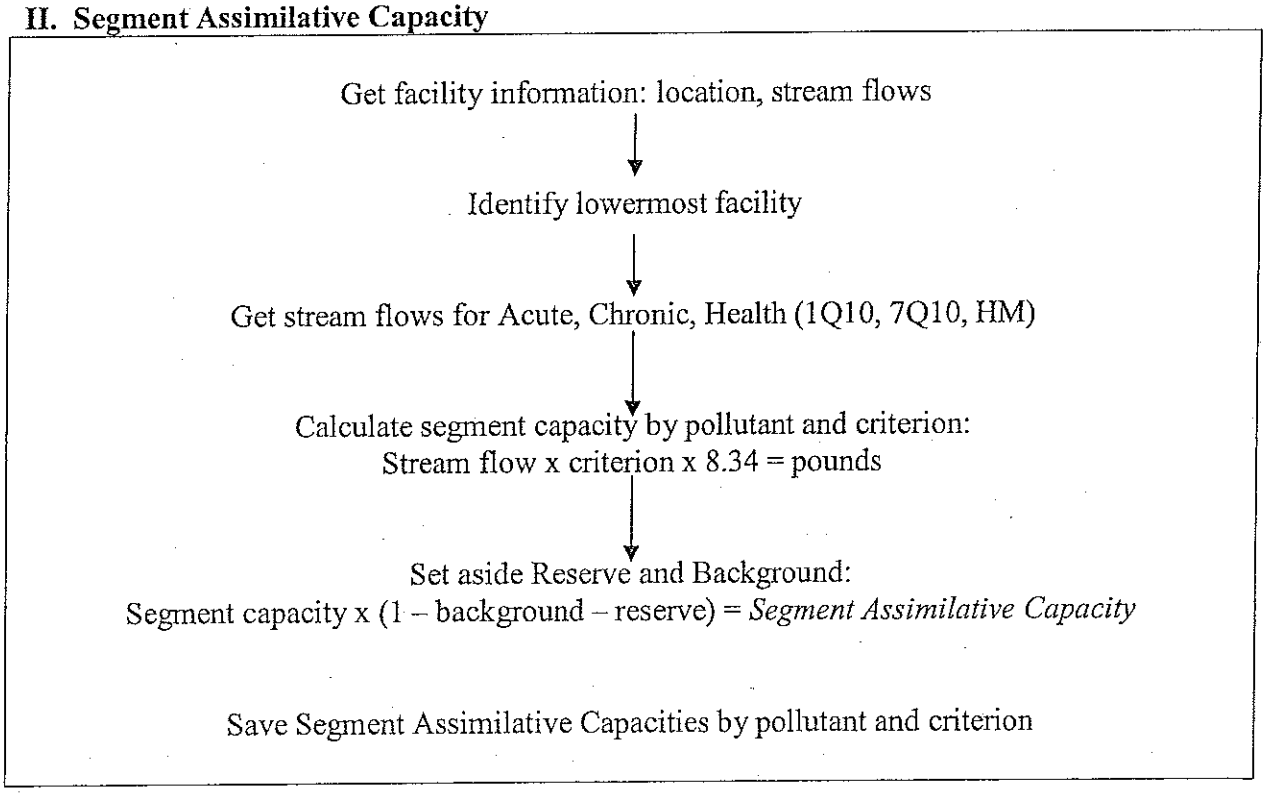
Water quality criteria. Standards for acceptable in-stream or ambient levels of pollutants. These are established in the Department's Chapter 584 and are expressed as concentrations in ug/L. There may be separate standards for acute and chronic protection aquatic life and/or human health. Each criterion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

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

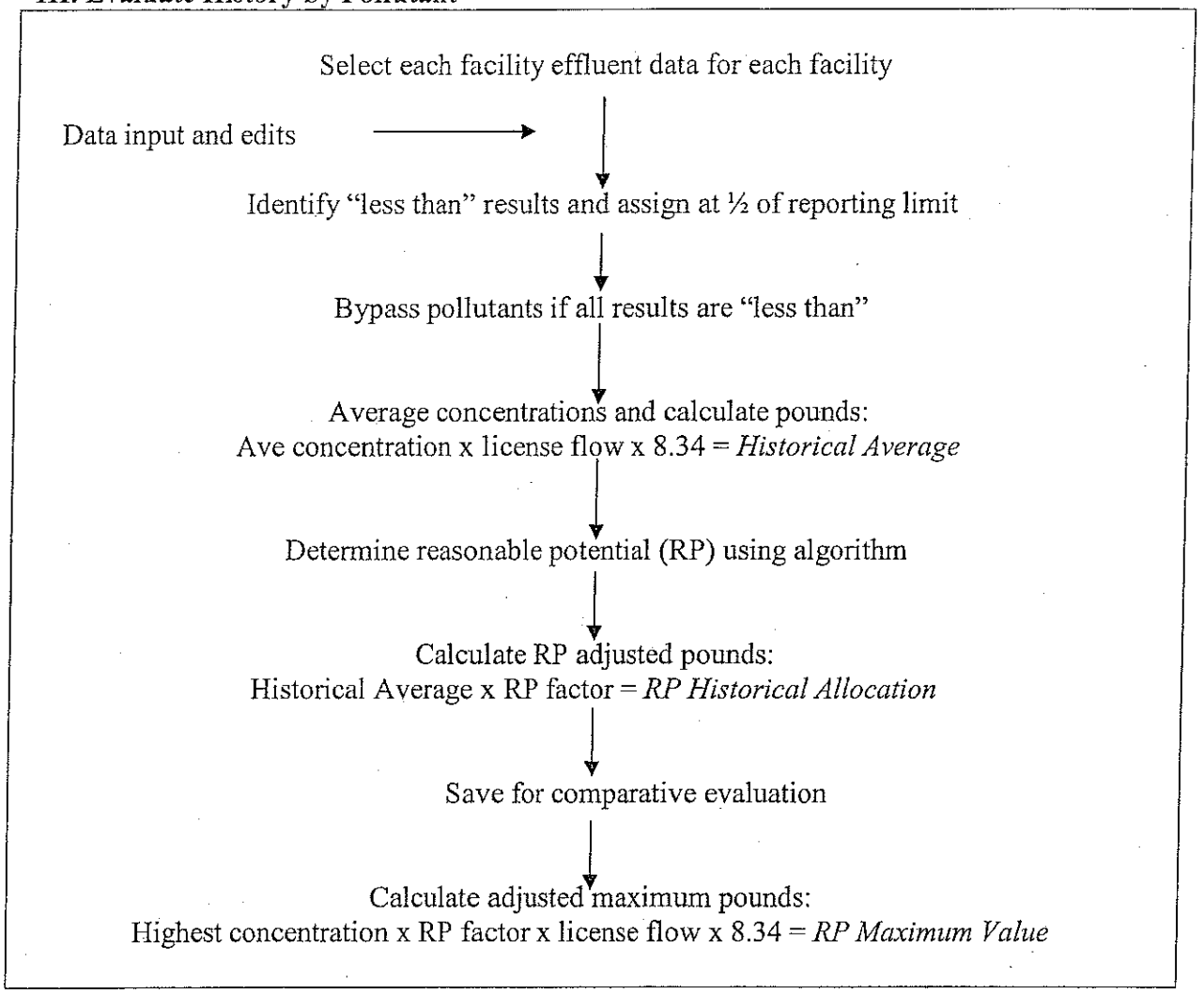
I. Preparation



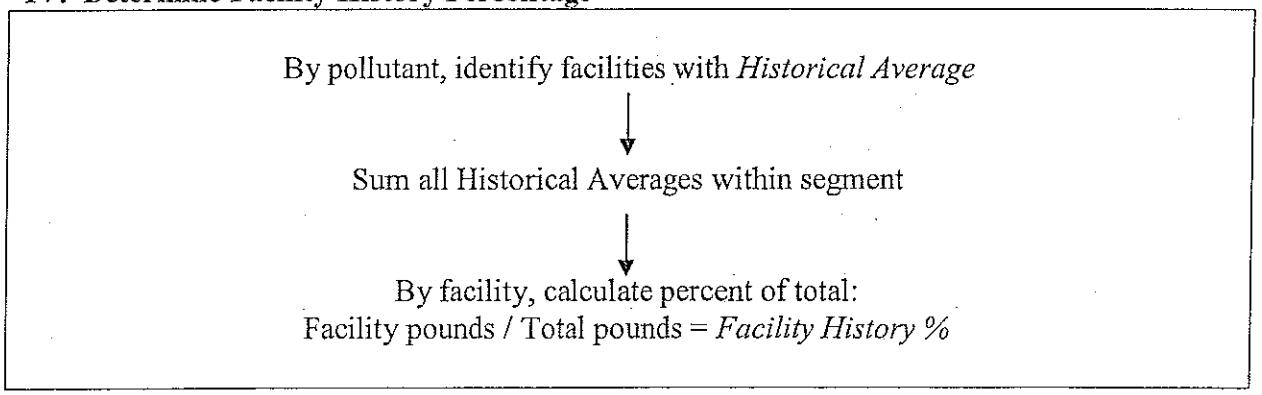
II. Segment Assimilative Capacity



III. Evaluate History by Pollutant



IV. Determine Facility History Percentage



V. Segment Allocation

By pollutant and criterion, select *Segment Assimilative Capacity*

↓

Select individual *Facility History %*

↓

Determine facility allocation:
Assimilative Capacity x Facility History % = *Segment Allocation*

↓

Save for comparative evaluation

VI. Individual Allocation

Select individual facility and dilution factor (DF)

↓

Select pollutant and water quality criterion

↓

By pollutant and criterion, calculate individual allocations:
[DF x 0.75 x criterion] + [0.25 x criterion] = Individual Concentration

↓

Determine individual allocation:
Individual Concentration x license flow x 8.34 = *Individual Allocation*

↓

Save for comparative evaluation

VII. Make Initial Allocation

By facility, pollutant and criterion, get:
Individual Allocation, Segment Allocation, RP Historical Allocation

↓

Compare allocation and select the smallest

↓

Save as *Facility Allocation*

VIII. Evaluate Need for Effluent Limits

By facility, pollutant and criterion select
Segment Allocation, *Individual Allocation* and *RP Maximum value*

↓

If *RP Maximum value* is greater than either *Segment Allocation* or *Individual Allocation*, use lesser value as *Effluent Limit*

↓

Save *Effluent Limit* for comparison

IX. Reallocation of Assimilative Capacity

Starting at top of segment, get *Segment Allocation*, *Facility Allocation* and *Effluent Limit*

↓

If *Segment Allocation* equals *Effluent Limit*, move to next facility downstream

↓

If not, subtract *Facility Allocation* from *Segment Allocation*

↓

Save difference

↓

Select next facility downstream

↓

Figure remaining *Segment Assimilative Capacity* at and below facility, less tributaries

↓

Add saved difference to get an adjusted *Segment Assimilative Capacity*

↓

Reallocate *Segment Assimilative Capacity* among downstream facilities per step V

↓

Repeat process for each facility downstream in turn

ATTACHMENT E

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

August 2006

ATTACHMENT F

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

MEPDES# _____ Facility Name _____

Since the effective date of your permit have there been:	NO	YES (Describe in Comments)
1. changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may **increase** the toxicity of the discharge?		
2. changes in the operation of the treatment works that may **increase** the toxicity of the discharge?		
3. changes in industrial manufacturing processes contributing wastewater to the treatment works that may **increase** the toxicity of the discharge?		

COMMENTS:

Name(print) _____

Signature _____ Date _____

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

This form may be used to meet the requirements of Chap 530(2)(D)(4). This Chapter requires all dischargers having waived or reduced Toxic testing to file a statement with the Department describing changes to the waste being contributed to their system as outlined above. As an alternative the discharger may submit a signed letter containing the same information.

CONTENTS

A. GENERAL PROVISIONS

1. **General compliance**. All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

2. Other materials. Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

(a) They are not

(i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
(ii) Known to be hazardous or toxic by the licensee.

(b) The discharge of such materials will not violate applicable water quality standards.

3. Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
(b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

4. Duty to provide information. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

5. Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Reopener clause. The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

7. Oil and hazardous substances. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

8. Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Confidentiality of records. 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

10. Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

11. Other laws. The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee if its obligation to comply with other applicable Federal, State or local laws and regulations.

12. Inspection and entry. The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B. OPERATION AND MAINTENACE OF FACILITIES

1. General facility requirements.

(a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

(b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.

(c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.

(d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.

(e) The permittee shall install flow measuring facilities of a design approved by the Department.

(f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

2. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

3. Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Bypasses.

(a) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

(c) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).

(d) Prohibition of bypass.

(i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(C) The permittee submitted notices as required under paragraph (c) of this section.

(ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

6. Upsets.

(a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;
(ii) The permitted facility was at the time being properly operated; and
(iii) The permittee submitted notice of the upset as required in paragraph D(1)(f) , below. (24 hour notice).
(iv) The permittee complied with any remedial measures required under paragraph B(4).

(d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING AND RECORDS

1. General Requirements. This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.

2. Representative sampling. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

3. Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

(c) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;
(ii) The individual(s) who performed the sampling or measurements;
(iii) The date(s) analyses were performed;
(iv) The individual(s) who performed the analyses;
(v) The analytical techniques or methods used; and
(vi) The results of such analyses.

(d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.

(e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

D. REPORTING REQUIREMENTS

1. Reporting requirements.

(a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

(e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(f) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance

has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit.
(B) Any upset which exceeds any effluent limitation in the permit.
(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.

(h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

2. Signatory requirement. All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

3. Availability of reports. Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

4. Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 ug/l);
(ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

(b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following ``notification levels'':

(i) Five hundred micrograms per liter (500 ug/l);
(ii) One milligram per liter (1 mg/l) for antimony;
(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

5. Publicly owned treatment works.

(a) All POTWs must provide adequate notice to the Department of the following:

(i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
(ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
(iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

E. OTHER REQUIREMENTS

1. Emergency action - power failure. Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

(a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.

(b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

2. Spill prevention. (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminates and shall specify means of disposal and or treatment to be used.

3. **Removed substances.** Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

4. **Connection to municipal sewer.** (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

F. DEFINITIONS. For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

Average weekly discharge limitation means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Composite sample means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

Continuous discharge means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Flow weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab sample means an individual sample collected in a period of less than 15 minutes.

Interference means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Maximum daily discharge limitation means the highest allowable daily discharge.

New source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

Pass through means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

Person means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

Point source means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works ("POTW") means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

Septage means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

Time weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

Toxic pollutant includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.

DEP INFORMATION SHEET

Appealing a Commissioner's Licensing Decision

Dated: May 2004 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

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

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

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

1. *Aggrieved Status*. Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.

6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.

7. *New or additional evidence to be offered.* The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.

3. *The filing of an appeal does not operate as a stay to any decision.* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II. APPEALS TO MAINE SUPERIOR COURT

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

ADDITIONAL INFORMATION

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

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.