IN THE MATTER OF

GREATER AUGUSTA UTILITY DISTRICT	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
AUGUSTA, KENNEBEC COUNTY, MAINE	)	AND
#ME0100013	)	WASTE DISCHARGE LICENSE
#W-002695-5M-I-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq. and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (the Department) has considered the application of the GREATER AUGUSTA UTILITY DISTRICT (hereinafter, the District), with its supportive data, agency review comments, and other related material on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied for renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100013 / Maine Waste Discharge License (WDL) #W-002695-5M-H-R which was issued on June 6, 2003 for a five year term. The MEPDES Permit / WDL authorized the discharge of up to a monthly average flow of 8.0 million gallons per day (MGD) of secondary treated sanitary wastewater and an unspecified quantity of excess combined sanitary wastewater and stormwater receiving primary treatment only from a municipal wastewater treatment facility to the Kennebec River, Class C, in Augusta, Maine. The MEPDES Permit / WDL also authorized the discharge of untreated combined sanitary wastewater and stormwater from twenty-four (24) combined sewer overflow (CSO) outfalls to the Kennebec River and its tributaries, Class C and Class B, in Augusta. It is noted that since issuance of the 2003 MEPDES Permit / WDL, all of the receiving waters affected by this permitting action have been reclassified to
Class B, one CSO outfall has been eliminated, the District has been formed to replace the former Augusta Sanitary District, and the city of Hallowell and its one CSO outfall (MEPDES Permit #ME0101010 / WDL #W-007532-5T-C-R) have been included within the District and this permitting action. Upon issuance of this permit, MEPDES Permit #ME0101010 / Maine WDL #W-007352-5T-C-R will be retired.

PERMIT SUMMARY

This permitting action is similar to the June 6, 2003 MEPDES Permit / Maine WDL in that it is carrying forward the:

Secondary Treated Wastewaters (Outfall #001A):

1. monthly average flow limit of 8.0 MGD and daily maximum flow reporting requirement;
2. carbonaceous biochemical oxygen demand ($CBOD_5$) and total suspended solids (TSS) best practicable treatment (BPT) based mass and concentration limits;
3. settleable solids daily maximum concentration limit;
4. monthly average and daily maximum water quality based *E. coli* bacteria concentration limits and daily maximum BPT based total residual chlorine (TRC) concentration limit established pursuant to the previous Class C receiving water classification until May 14, 2010;
5. seasonal total phosphorus mass and concentration reporting requirements; and
6. pH range limitation of 6.0 to 9.0 standard units;

CSO-Related Bypasses of Secondary Treatment (Outfall #001B):

7. authorization to bypass secondary treatment in response to wet weather events of specified magnitude and conditions;
8. monthly average and / or daily maximum reporting requirement for flow, surface loading rates, number of discharge days per month, TSS, and TSS percent removal for the duration of the permit, and $CBOD_5$ and $CBOD_5$ percent removal until March 31, 2009; and
9. daily maximum water quality based *E. coli* bacteria concentration limit and daily maximum BPT based TRC concentration limit established pursuant to the previous Class C receiving water classification until May 14, 2011;

Additional Areas

10. previously established minimum monitoring frequency and sample type requirements, except as otherwise noted;
11. requirements to notify the Department of changes in the influent waste-stream;
12. requirements to maintain a current wet weather flow management plan for the facility;
13. requirements to maintain a current Operations and Maintenance Plan for the facility;
14. authorization to receive and introduce up to a maximum of 20,000 gallons per day of septage pursuant to Department rule and as conditioned and revised herein; and
15. provisions for reopening the permit for modification.

This permitting action is different from the June 6, 2003 MEPDES Permit / Maine WDL in that it is:

Secondary Treated Wastewaters:

1. combining the previous Augusta Sanitary District and Hallowell Water District wastewater discharge limits and requirements;
2. establishing requirements for a minimum of 85% removal of $CBOD_5$ and TSS;
3. establishing monthly average and daily maximum water quality based *E. coli* bacteria concentration limits and daily maximum water quality based TRC concentration limit based on previous Class B receiving water classification standards and Department BPJ beginning May 15, 2010, pursuant to reclassification of the receiving water;
4. establishing monthly average water quality based mass and concentration limits for inorganic arsenic based on facility toxicity testing results, with a schedule of compliance that delays the effective date of the limits until the USEPA approves of a test method for inorganic arsenic, and interim procedures for monitoring and reporting total arsenic; and
5. establishing updated whole effluent toxicity (WET), analytical chemistry, and chemical specific (priority pollutant) testing requirements pursuant to Department rules Chapter 530, *Surface Water Toxics Control Program*, Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*;

CSO-Related Bypasses of Secondary Treatment (Outfall #001B):

6. replacing reporting requirements for $CBOD_5$ and $CBOD_5$ percent removal with BOD_5 and BOD_5 percent removal beginning April 1, 2009; and
7. establishing daily maximum water quality based *E. coli* bacteria and TRC concentration limits based on previous Class B receiving water classification standards and Department BPJ beginning May 15, 2011, pursuant to upgrade of the receiving water with interim compliance milestones and dates;

Additional Areas

8. establishing revised conditions and milestones for wastewater discharge through Combined Sewer Overflows (CSOs);
9. establishing revised requirements pursuant to the Department's Industrial Pretreatment Program;
10. establishing requirements to develop Toxicity Reduction Evaluation plans to outline strategies to identify the sources and action items to be implemented to eliminate exceedences of human health criteria associated with arsenic testing; and
11. establishing requirements to report annually on any changes to the influent waste-stream or facility operations that may result in increases in the toxicity of the discharge.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated August 1, 2008, and revised September 9, 2008 and September 11, 2008, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

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

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

3. The provisions of the State's antidegradation policy, 38 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 discharges (including the 24 CSOs) will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the application of the GREATER AUGUSTA UTILITY DISTRICT, to discharge up to a monthly average flow of 8.0 MGD of secondary treated sanitary wastewater and an unspecified quantity of excess combined sanitary wastewater and stormwater receiving primary treatment only from a municipal wastewater treatment facility as well as untreated combined sanitary wastewater and stormwater from twenty four (24) combined sewer overflow (CSO) outfalls to the Kennebec River and its tributaries, Class B, in Augusta, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

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

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

3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 18th DAY OF September, 2008.

COMMISSIONER OF ENVIRONMENTAL PROTECTION

BY:_____
David P. Littell, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application March 28, 2008.

Date of application acceptance March 28, 2008.

Date filed with Board of Environmental Protection _____

This Order prepared by Robert D. Stratton, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **secondary treated sanitary wastewater** from **Outfall #001A** to the Kennebec River. Such discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values bracketed in the tables below and in the text on subsequent pages are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMRs). Footnotes are found on Pages 9-14.

Effluent Characteristic	**Discharge Limitations**						**Minimum Monitoring Requirements**	
	Monthly Average as specified	**Weekly Average** as specified	**Daily Maximum** as specified	**Monthly Average** as specified	**Weekly Average** as specified	**Daily Maximum** as specified	**Measurement Frequency** as specified	**Sample Type** as specified
Flow *[50050]*	8.0 MGD*[03]*	---	Report MGD	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) *[80082]*	1,668 lbs / Day *[26]*	2,668 lbs / Day *[26]*	Report lbs / Day*[26]*	25 mg/L *[19]*	40 mg/L *[19]*	45 mg/L *[19]*	5/Week *[05/07]*	Composite *[24]*
$CBOD_5$ % Removal (1) *[81010]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids (TSS) *[00530]*	2,002 lbs / Day *[26]*	3,002 lbs / Day *[26]*	Report lbs / Day*[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	Composite *[24]*
TSS % Removal (1) *[81010]*	---	---	---	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) **From effective date until May 14, 2010** *[31633]*	---	---	---	142/100 ml(3) *[13]*	---	949/100 ml *[13]*	3/Week *[03/07]*	Grab *[GR]*
E. coli Bacteria (2) **Beginning May 15, 2010** *[31633]*	---	---	---	64/100 ml(3) *[13]*	---	427/100 ml *[13]*	3/Week *[03/07]*	Grab *[GR]*
Total Residual Chlorine(4) **From effective date until May 14, 2010** *[50060]*	---	---	---	---	---	1.0 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
Total Residual Chlorine(4) **Beginning May 15, 2010** *[50060]*	---	---	---	---	---	0.82 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
Total Phosphorus *[00665]* **From June 1 – September 30**	Report lbs / Day *[26]*	---	Report lbs / Day *[26]*	Report mg/L *[19]*	---	Report mg/L *[19]*	1/Month*[01/30]*	Composite *[24]*
pH (Std. Units) *[00400]*	---	---	---	---	---	6.0-9.0 *[12]*	1/Day *[01/01]*	Grab *[GR]*
Arsenic (total) (5) *[01002]* **(Upon permit issuance)**	report lb/day *[26]*	---	---	report ug/L *[28]*	---	---	1/Year *[02/YR]*	24-Hr. Composite *[24]*
Arsenic (Inorganic) (6) *[01252]* **(Upon EPA test method approval)**	0.27 lb / day *[26]*	---	---	4.1 ug/L *[28]*	---	---	1/Year *[01/YR]*	24-Hr. Composite *[24]*

SPECIAL CONDITIONS

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

2. Whole Effluent Toxicity, Analytical Chemistry, and Priority Pollutant Testing

SCREENING LEVEL **-** Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter. The italicized numeric values bracketed in the table below and on the following pages are code numbers that Department personnel utilize to code the monthly DMRs.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[7]						
Acute – NOEL	---	---	---	Report %*[23]*	1/Year*[01/YR]*	Composite *[24]*
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report %*[23]*	1/Year*[01/YR]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TDA6F]*						
Chronic – NOEL						
Ceriodaphnia dubia (Water flea) *[TBP3B]*	---	---	---	Report %*[23]*	1/Year*[01/YR]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TBQ6F]*	---	---	---	Report %*[23]*	1/Year*[01/YR]*	Composite *[24]*
Analytical Chemistry [8,9] *[54177]*	---	---	---	Report ug/L *[28]*	1/Quarter *[01/90]*	Composite/Grab *[24]*
Priority Pollutant [9] *[50008]*	---	---	---	Report ug/L *[28]*	1/Year *[01/YR]*	Composite/Grab *[24]*

SPECIAL CONDITIONS

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

3. The permittee is authorized to **bypass secondary treatment**, identified herein **as Outfall #001B** (internal waste-stream). Such CSO related discharges may only occur in response to wet weather events when the influent to the wastewater treatment facility exceeds an instantaneous flow rate of 8,333 gallons per minute (12.0 MGD) or in accordance with the most current approved Wet Weather Flow Management Plan. Discharges shall be monitored and reported as specified below. Approval of said bypass will be reviewed and may be modified or terminated pursuant to Special Condition Q, *Reopening of Permit for Modification*, if there is substantial change in the volume or character of pollutants in the collection/treatment system.

Effluent Characteristic	**Discharge Limitations**				**Minimum Monitoring Requirements**	
	Monthly Average as specified	**Daily Maximum** as specified	**Monthly Average** as specified	**Daily Maximum** as specified	**Measurement Frequency** as specified	**Sample Type** as specified
Flow, MGD *[50050]*	Report Total MGD *[03]*	Report MGD *[03]*	---	---	Continuous *[99/99]*	Recorder *[RC]*
Surface Loading Rate(10) *[50050]*	---	Report gpd/sf *[07]*	---	---	1/Discharge Day(11) *[01/DS]*	Calculate *[CA}*
Overflow Use, Occurrences(12) *[74062]*	---	---	Report # of days *[93]*	---	1/Discharge Day(11 *[01/DS]*	Record Total *[RT}*
$CBOD_5$ **From effective date until March 31, 2009** *[80082]*	---	---	---	Report mg/L *[19]*	1/Discharge Day(11) *[01/DS]*	Composite *[24]*
$CBOD_5$ % Removal(13) **From effective date until Mar. 31, 2009** *[81010]*	---	---	Report (%) *[23]*	---	1/Discharge Day(11) *[01/DS]*	Calculate *[24]*
BOD_5 **Beginning April 1, 2009** *[00310]*	---	---	---	Report mg/L *[19]*	1/Discharge Day(11) *[01/DS]*	Composite *[24]*
BOD_5 % Removal(13) **Beginning April 1, 2009** *[81010]*	---	---	Report (%) *[23]*	---	1/Discharge Day(11) *[01/DS]*	Calculate *[24]*
TSS *[00530]*	---	---	---	Report mg/L *[19]*	1/Discharge Day(11) *[01/DS]*	Composite *[24]*
TSS % Removal(13) *[81011]*	---	---	Report (%) *[23]*	---	1/Discharge Day(11) *[01/DS]*	Calculate *[24]*
E. coli Bacteria (2) **From effective date until May 14, 2011** *[31633]*	---	---	---	949/100 ml *[13]*	1/Discharge Day(11) *[01/DS]*	Grab *[GR]*
E. coli Bacteria (2) **Beginning May 15, 2011** *[31633]*	---	---	---	427/100 ml *[13]*	1/Discharge Day(11) *[01/DS]*	Grab *[GR]*
Total Residual Chlorine(4) **From effective date until May 14, 2011** *[50060]*	---	---	--	1.0 mg/L *[19]*	1/Discharge Day(11)	Grab

					[01/DS]	*[GR]*
Total Residual Chlorine[4] **Beginning May 15, 2011** *[50060]*	---	---	--	0.82 mg/L *[19]*	1/Discharge Day[11] *[01/DS]*	Grab *[GR]*

SPECIAL CONDITIONS

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

Footnotes:

Sampling Locations: Influent sampling for $CBOD_5$, BOD_5 and TSS for calculating percent removals for both primary and secondary treated wastewaters shall be sampled just prior to the influent parshall flume. See footnotes #1 and #13 below. **Effluent receiving secondary treatment** (Outfall #001A) shall be sampled on a year-round basis at the end of the chlorine contact chamber but prior to the weir for all parameters except *E. coli* bacteria and total residual chlorine, which may be sampled after the weir. **Effluent receiving primary treatment** (Outfall #001B) shall be sampled for all parameters at the end of the CSO disinfection/dechlorination chamber and prior to combining with the secondary treated effluent being discharged via Outfall #001A. 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 by 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 Health and Human Services. Samples that are sent to a POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).

All detectable 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. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the detection limit achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL is not acceptable and will be rejected by the Department. For mass, if the analytical result is reported as <Y or if a detectable result is less than a RL, report a <X lbs/day, where X is the parameter specific limitation established in the permit.

1. **Percent removal** - The treatment facility shall maintain a minimum of 85 percent removal of both $CBOD_5$ and TSS for all wastewaters receiving a secondary level of treatment. The percent removal shall be based on a monthly average calculation using influent and effluent concentrations. The percent removal limit 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.

SPECIAL CONDITIONS

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

Footnotes:

2. ***E. coli* bacteria limits and monitoring requirements** – *E. coli* bacteria limits and monitoring requirements are seasonal and apply between May 15th and September 30th of each year. The Department reserves the right to require disinfection on a year-round basis to protect the health and welfare of the public. For Outfall #001A, from the effective date of this permitting action until May 14, 2010, *E. coli* bacteria limits of 142 colonies / 100 ml (monthly average) and 949 colonies / 100 ml (daily maximum) shall apply. Beginning May 15, 2010, *E. coli* bacteria limits of 64 colonies / 100 ml (monthly average) and 427 colonies / 100 ml (daily maximum) shall apply. For Outfall #001B, from the effective date of this permitting action until May 14, 2011, the daily maximum limit of 949 colonies / 100 ml shall apply. Beginning May 15, 2011, the daily maximum limit of 427 colonies / 100 ml shall apply.

3. **Geometric mean** – The monthly average *E. coli* bacteria limitation is a geometric mean limitation and shall be calculated and reported as such.

4. **Total residual chlorine (TRC) limits and monitoring requirements** – TRC limits and monitoring requirements are applicable whenever elemental chlorine or chlorine based compounds are being used to disinfect the discharge. From the effective date of this permitting action until May 14, 2010 for Outfall #001A and until May 14, 2011 for Outfall #001B, a daily maximum TRC limit of 1.0 mg/L shall apply. Beginning May 15, 2010 for Outfall #001A and beginning May 15, 2011 for Outfall #001B, a daily maximum TRC limit of 0.82 mg/L shall apply.

5. **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 8.2 ug/L (See Fact Sheet page 23) or the Department's RL at the time (whichever is higher) will be considered as a possible exceedence of the inorganic limit. Arsenic limits are based on risks from long-term exposure, therefore, though the effluent limit is expressed as a monthly average, the Department will evaluate compliance as an annual average.

6. **Arsenic (Inorganic)** – The limitations and monitoring requirements for inorganic arsenic are not in effect until the USEPA approves of a test method for inorganic arsenic. See Special Condition P, *Schedule of Compliance – Inorganic Arsenic*, of this permit.

SPECIAL CONDITIONS

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

Footnotes:

7. **Whole Effluent Toxicity (WET)** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the acute and chronic critical thresholds of 2.3% and 0.48% respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points. The critical acute and chronic thresholds were derived as the mathematic inverse of the applicable acute and chronic dilution factors of 43.0:1 and 206.1:1 respectively.

   Screening level testing - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level WET testing at a minimum frequency of once per year (1/Year). Acute and chronic tests shall be conducted on the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). It is noted pursuant to Department rule Chapter 530, *Surface Water Toxics Control Program*, surveillance level WET testing is being waived for the first four years of the term of the permit**.**

   WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 2.3% and 0.48% respectively. Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

   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 nine (9) parameters specified in the WET chemistry section, and the twelve (12) parameters specified in the Analytical Chemistry section, of the form in Attachment D of this permit each time a WET test is performed.

SPECIAL CONDITIONS

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

Footnotes:

8. **Analytical chemistry** – Refers to a suite of twelve (12) chemical tests that consist of ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total lead, total nickel, total silver, total zinc and total residual chlorine.

   Screening level testing – Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct analytical chemistry testing at a minimum frequency of once per calendar quarter (1/Quarter) for four consecutive calendar quarters. It is noted pursuant to Department rule Chapter 530, *Surface Water Toxics Control Program,* surveillance level analytical chemistry testing is being waived for the first four years of the term of the permit.

9. **Priority pollutant testing** – Priority pollutants are those parameters listed by Department rule, Chapter 525, Section 4(IV).

   Screening level testing – Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year). It is noted Chapter 530 does not establish routine surveillance level testing priority pollutant testing in the first four years of the term of this permit.

   Priority pollutant and analytical chemistry testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests when applicable. Priority pollutant and analytical chemistry testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment D of this permit for a list of the Department's reporting levels (RLs) of detection. Test results must be submitted to the Department not later than the next 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 Department rule Chapter 584. For the purposes of Discharge Monitoring Report (DMR) reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

   All mercury sampling required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry. See Attachment E of this permit for the Department's report form for mercury results.

SPECIAL CONDITIONS

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

Footnotes:

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

11. **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.

12. **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 $CBOD_5$ (or BOD_5) and total suspended solids shall be collected per discharge day if a continuous overflow occurrence is greater than 60 minutes in duration or intermittent occurrences totaling 120 minutes during a 24-hour period. Composite samples shall be flow proportioned from all intermittent overflows during that 24-hour period. Only one grab sample for *E. coli* bacteria and total residual chlorine is required to be collected per discharge day if a continuous overflow occurrence is greater than 60 minutes in duration or intermittent occurrences totaling 120 minutes during a 24-hour period and are only required if the event(s) occur between 7:00 AM and 7:00 PM.

    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 $CBOD_5$ (or BOD_5) 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. **On or before April 1, 2009**, the permittee shall install a separate composite sampler for influent flow during bypass events to enable compliance with these provisions *[59499]*.

13. **$CBOD_5$, BOD_5, and TSS** - The permittee shall analyze both the influent and effluent of the primary clarifiers for $CBOD_5$ (or BOD_5) and TSS during the discharge of treated excess combined sewer wastewaters 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 $CBOD_5$ (or BOD_5) and TSS test results used to calculate the percent removal rates reported. For the purpose of calculating

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

Footnotes:

$CBOD_5$ (or BOD_5) and TSS percent (%) removals on the treated excess combined sewer wastewater, the influent sample shall only be collected during overflow occurrences. **From the effective date of this permitting action until March 31, 2009**, the permittee shall monitor $CBOD_5$ and $CBOD_5$ percent removal. **Beginning April 1, 2009**, the permittee shall monitor BOD_5 and BOD_5 percent removal.

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 $CBOD_5$ (or BOD_5) and Total Suspended Solids 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.

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 discharges 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. DISINFECTION

If chlorination is used as a means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized, followed by a dechlorination system if the total residual chlorine (TRC) cannot be met by dissipation in the detention tank. The TRC in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall be sufficient to leave a TRC concentration that will effectively reduce bacteria to levels below those specified in Special Condition A, *"Effluent Limitations and Monitoring Requirements"*, of this permit.

D. TREATMENT PLANT OPERATOR

The wastewater treatment facility must be operated by a person holding a **Grade V** certificate (or Registered Maine 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.

E. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the wastewater collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of 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 March 28, 2008; 2) the terms and conditions of this permit; and 3) from Outfall #001A and twenty four (24) combined sewer overflow outfalls listed in Special Condition K, *Combined Sewer Overflows*, of this permit. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

SPECIAL CONDITIONS
G. NOTIFICATION REQUIREMENT

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

1. Any introduction of pollutants into the wastewater collection and treatment system from an indirect discharger in a primary industrial category discharging process wastewater.

2. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.

3. For the purposes of this section, notice regarding substantial change shall include information on:

   (a) the quality and quantity of wastewater introduced to the wastewater collection and treatment system; and
   (b) any anticipated impact caused by the change in the quantity or quality of the wastewater to be discharged from the treatment system.

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall maintain a current Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. 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 to be adhered to during the events.

The permittee shall review their plan annually and record any necessary changes to keep the plan up-to-date.

I. 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.

SPECIAL CONDITIONS

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

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

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

J. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream up to **a maximum of 20,000 gallons**
per day of septage, subject to the following terms and conditions:

1. Septage, for the purposes of this permit, shall mean 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. Acceptance of any other wastes must be evaluated by the Department.

2. This approval is limited to methods and plans described in the application and supporting documents. Any variations are subject to review and approval prior to implementation.

3. At no time shall the addition of septage cause or contribute to effluent quality violations. If such conditions do exist, the introduction of septage into the treatment process or solids handling stream shall be suspended until effluent quality can be maintained.

4. The permittee shall maintain records which shall include, as a minimum, the following by date: volume of septage received, source of the septage (name of municipality), the hauler transporting the septage, the dates and volume of septage added to the waste water treatment influent and test results.

5. The addition of septage 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 septage into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.

SPECIAL CONDITIONS

J. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY (cont'd)

6. Septage known to be harmful to the treatment processes shall not be accepted. Wastes which contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation shall be refused.

7. Holding tank waste water shall not be recorded as septage but should be reported in the treatment facility's influent flow.

8. During wet weather events (bypass conditions), septage may be received into the septage holding facilities but shall not be added to the treatment process or solids handling facilities.

9. If conditions change within the permittee's septage management program, the permittee shall provide the Department with an updated septage management plan that reflects such changes, pursuant to Department rule, Chapter 555, *Standards for the Addition of Septage to Waste Water Treatment Facilities.*

K. COMBINED SEWER OVERFLOWS (CSOs)

Pursuant to Chapter 570 of Department Rules, *Combined Sewer Overflow Abatement*, the permittee is authorized to discharge from the following locations of CSOs (stormwater and sanitary wastewater) subject to the conditions and requirements herein.

SPECIAL CONDITIONS
K. COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

1. CSO locations

Outfall #	Location	Receiving Water & Class
003	Jackson Avenue	Kennedy Brook, Class B
005	Gage & Valley Streets	Kennebec River, Class B
006	Parking Lot - Ryan Hill	Kennebec River, Class B
007	RR Station - Depot Parking Lot	Kennebec River, Class B
008	Front Street Pump Station #3	Kennebec River, Class B
011	Corner Water & Bond St.	Bond Brook, Class B
012	Northern Ave. & Washington St.	Kennebec River, Class B
014	Bond Street	Bond Brook, Class B
015	Mt. Vernon Ave, Pump Station #1	Bond Brook, Class B
016	Mt. Vernon Ave, Pump Station #2	Bond Brook, Class B
017	North Belfast Avenue	Whitney Brook, Class B
019	Maple Street	Kennebec River, Class B
020	Willow St.- O'Connor's Yard	Kennebec River, Class B
021	Cony Street	Kennebec River, Class B
022	Howard Street, Pump Station #4	Kennebec River, Class B
023	Eastern Avenue	Kennebec River, Class B
024	East Interceptor – AMHI	Kennebec River, Class B
026	Willow Street - Cottle's	Kennebec River, Class B
027	Laundry – AMHI/Riverview	Kennebec River, Class B
029	Sewall St./Capital St. Storm Drain	Kennebec River, Class B
031	Corner Winthrop & Commercial St.	Kennebec River, Class B
032	75 Stone Street	Kennebec River, Class B
040	West Side Consolidation Conduit	Kennebec River, Class B
041	Hallowell – Hinkely Road	Kennebec River, Class B

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 applicable design capacities of the wastewater treatment facility, pumping stations or sewerage system.

K. COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

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.

   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 Long Term Control / Master Plan (see Sections 2 & 3 of Chapter 570 Department Rules)

   The permittee shall implement CSO control projects in accordance with the most recently approved CSO Master Plan entitled, "*2006 Long Term Control Plan Update"*, dated December 2006, prepared by Earth Tech, Inc., and the revised pages dated August 31, 2007 and September 19, 2007. The permittee shall:

   On or before December 1, 2010, *[PCS Code 04599]* the permittee shall complete the project referred to as Phase III – Construction of the Bond Brook Subarea Abatement. This project as currently proposed will provide consolidation and storage of wet weather flows in the Bond Brook Subarea and abatement of CSO flows.

   On or before December 31, 2011, *[PCS Code 06699]* the permittee shall submit to the Department for review and approval a Long Term Control Plan (Master Plan) 5-year Update analyzing the effectiveness of the abatement projects to date and reaffirming the Phase IV projects and schedule.

   The District is continuing to evaluate these milestones and dates and may need to reopen and modify the Permit accordingly (Special Condition Q).

SPECIAL CONDITIONS
K. COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

To modify the dates and/or projects specified above (but not dates in the Master Plan), the permittee must file an application with the Department to formally modify this permit. The work items identified in the abatement schedule may be amended from time to time based upon approval by 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 Chapter 570 of Department Rules).

   The permittee shall implement and follow the Nine Minimum Control documentation as approved by EPA on August 12, 1997. Work preformed on the Nine Minimum Controls during the year shall be included in the annual *CSO Progress Report* (see below).

6. CSO Compliance Monitoring Program (see Section 6 Chapter 570 of Department Rules)

   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 F of this permit) or similar format and submitted electronically to the Department's CSO Coordinator at the address in Special Condition O, *Monitoring and Reporting*, of this permit.

   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 Chapter 570 of Department Rules)

   Chapter 570 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

SPECIAL CONDITIONS
K. COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

must be reviewed and approved by the Department prior to their connection to the collection system. A Sewer Extension/Addition Reporting Form (which can be supplied by the Department) 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 Chapter 570 of Department Rules)

By March 1 of each year ***(PCS Code 11099)*** the permittee shall submit *CSO Progress Reports* covering 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 Chapter 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.

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 to the Department's CSO Coordinator at the address in Special Condition O, *Monitoring and Reporting*, of this permit.

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:

GREATER AUGUSTA UTILITY DISTRICT
(or AUGUSTA SANITARY DISTRICT)
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 wastewater 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 groundwater 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.

L. 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 POTWs 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 A 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, Department rule 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.

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 codes 61199, 61299, 61399, 61499, 61599]* **shall be consistent with the format described in the "Industrial Pretreatment Annual Report" form included as Attachment B of this permit and shall be submitted no later than July 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

SPECIAL CONDITIONS
L. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

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.

M. TOXICITY REDUCTION EVALUATION (TRE)

Within forty-five (45) days of the effective date of this permit, *[PCS code 02199]* the permittee shall submit to the Department for review and approval, a TRE plan which outlines a strategy to identify the source(s) and action items to be implemented to eliminate exceedence of human health criteria associated with the arsenic testing.

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

On or before December 31 of each year *[PCS code 95799]* the permittee is required to file a statement with the Department describing the following.

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

2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

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

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

SPECIAL CONDITIONS
O. 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 DMRs 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 Department assigned compliance inspector (unless otherwise specified) at the following address:

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

Electronic versions of the "*CSO Progress Report*" and "*CSO Activity and Volumes*" form (Attachment F of this permit) shall be submitted to the Department's CSO Coordinator at the address below:

CSO Coordinator
Maine Department of Environmental Protection
Bureau of Land & Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@maine.gov

P. SCHEDULES OF COMPLIANCE:

The Department is establishing a Schedule of Compliance for implementation of the following effluent limits and requirements established in this permitting action, pursuant to State law 38 M.R.S.A. §414-A(2) and Department rule Chapter 523, Section 7, as described in Fact Sheet Section 6. The permittee shall adhere to the specific required tasks and deadlines detailed below:

SPECIAL CONDITIONS
P. SCHEDULES OF COMPLIANCE (cont'd):

1. Inorganic Arsenic (Outfall #001A)

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

2. *E. coli* Bacteria and Total Residual Chlorine (Outfall #001B). The schedule for implementation of revised effluent limitations for *E. coli* bacteria and TRC for Outfall #001B is related to the District's ongoing Phase III CSO abatement project and facility process evaluations, which involve infrastructural and operational improvements and upgrades to improve facility performance during both dry and wet weather flows, resulting in compliance with the effluent limits as proposed as soon as possible.

On or before December 31, 2009, the permittee shall submit to the Department, facility wide plans (reports) to address operational and physical improvements necessary to ensure compliance with the revised *E. coli* bacteria and TRC limits established in this permitting action *[34099]*. The plans shall encompass methods, technologies, and implementation schedules for attainment of said limits.

On or before July 1, 2010, the permittee shall submit a report to the Department documenting the progress toward completion of operational and physical improvements necessary to ensure compliance with the revised *E. coli* bacteria and TRC limits and outlining a scope of work and schedule for completion *[43699]*.

On or before December 31, 2010, the permittee shall submit submit a report to the Department documenting the progress toward completion of operational and physical improvements necessary to ensure compliance with the revised *E. coli* bacteria and TRC limits and outlining a scope of work and schedule for completion *[43699]*.

On or before May 15, 2011, the permittee shall complete construction and initiate startup of the operational and physical improvements necessary to ensure compliance with the revised *E. coli* bacteria and TRC limits. Said limits shall be in effect as of this date *[52599]*.

SPECIAL CONDITIONS

Q. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time, and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded; (2) require additional effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information including, but not limited to, new information from ambient water quality studies of the receiving waters.

R. SEVERABILITY

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

ATTACHMENT A

(Industrial Pretreatment Program
Limit Re-assessment Procedures and Forms)

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

Pursuant to federal regulation 40 CFR Part 122.21(j)(4) and Department rule Chapter 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 17.9:1 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 32 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 = [17.9 x 0.75[(1)] x 2.36 ug/L] + [0.25 x 2.36 ug/L] = 32 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.

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

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.

	Column (1)		**Column (2)**	
Pollutant	Influent Data Analyses		MAIHL Values	Criteria
	Maximum (lb/day)	Average (lb/day)	(lb/day)	
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.

Columns

	Column (1) Effluent Data Analyses		**(2A)** Water Quality Criteria (AWQC)	**(2B)**
	Maximum (ug/l)	Average (ug/l)	From TBLLs (ug/l)	Today (ug/l)
Pollutant				
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.

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

ATTACHMENT B

(Industrial Pretreatment Program
Annual Report Requirements)

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.

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
b.) Total Chromium
c.) Total Copper
d.) Total Lead
e.) Total Mercury
f.) Total Nickel
g.) Total Silver
h.) Total Zinc
i.) Total Cyanide
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 C

(Protocol for Total Phosphorus Sample Collection and Analysis)

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 D

(Whole Effluent Toxicity, Analytical Chemistry, and Chemical Specific Test Reporting Forms and Reporting Limits)

ATTACHMENT E

(Mercury Testing Reporting Form)

ATTACHMENT F

(CSO Activities and Volume Form)

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET
Date: **August 1, 2008**
Revised: **September 9, 2008, September 11, 2008**

MEPDES PERMIT NUMBER: #**ME0100013**
MAINE WDL NUMBER: #**W-002695-5M-I-R**

NAME AND ADDRESS OF APPLICANT:

Greater Augusta Utility District
12 Williams Street
Augusta, Maine 04330

COUNTY: **Kennebec**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Greater Augusta Utility District
33 Jackson Avenue
Augusta, Maine 04330

RECEIVING WATER/CLASSIFICATION: **Kennebec River and tributaries / Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:
Mr. Brian Tarbuck; (207) 622-3701; btarbuck@augustawater.org

1. APPLICATION SUMMARY

Application: The applicant has applied for renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100013 / Maine Waste Discharge License (WDL) #W-002695-5M-H-R which was issued on June 6, 2003 for a five year term. The MEPDES Permit / WDL authorized the discharge of up to a monthly average flow of 8.0 million gallons per day (MGD) of secondary treated sanitary wastewater and an unspecified quantity of excess combined sanitary wastewater and stormwater receiving primary treatment only from a municipal wastewater treatment facility to the Kennebec River, Class C, in Augusta, Maine. The MEPDES Permit / WDL also authorized the discharge of untreated combined sanitary wastewater and stormwater from twenty-four (24) combined sewer overflow (CSO) outfalls to the Kennebec River and its tributaries, Class C and Class B, in Augusta. It is noted that since issuance of the 2003 MEPDES Permit / WDL, all of the receiving waters affected by this permitting action have been reclassified to Class B, one CSO outfall has been eliminated, the Greater Augusta Utility District (District) has been formed to replace the former Augusta Sanitary District, and the city of Hallowell and its one CSO outfall (MEPDES Permit #ME0101010 / WDL #W-007532-5T-C-R) have been included within the District and this permitting action. Upon issuance of this permit, MEPDES Permit #ME0101010 / Maine WDL #W-007352-5T-C-R will be retired.

2. PERMIT SUMMARY

a. Regulatory: On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned discharges. That decision was subsequently appealed. On August 8, 2007, a panel of the U.S. First Circuit Court of Appeals ruled that Maine's environmental regulatory jurisdiction applies uniformly throughout the State. From January 12, 2001 forward, the program has been referred to as the MEPDES program and permit #ME0100013 (same as NPDES permit number) utilized as the primary reference number for the District.

b. Terms and Conditions*:* This permitting action is similar to the June 6, 2003 MEPDES Permit / Maine WDL in that it is carrying forward the:

Secondary Treated Wastewaters (Outfall #001A):

1. monthly average flow limit of 8.0 MGD and daily maximum flow reporting requirement;
2. carbonaceous biochemical oxygen demand ($CBOD_5$) and total suspended solids (TSS) best practicable treatment (BPT) based mass and concentration limits;
3. settleable solids daily maximum concentration limit;
4. monthly average and daily maximum water quality based *E. coli* bacteria concentration limits and daily maximum BPT based total residual chlorine (TRC) concentration limit established pursuant to the previous Class C receiving water classification until May 14, 2010;
5. seasonal total phosphorus mass and concentration reporting requirements; and
6. pH range limitation of 6.0 to 9.0 standard units;

CSO-Related Bypasses of Secondary Treatment (Outfall #001B):

7. authorization to bypass secondary treatment in response to wet weather events of specified magnitude and conditions;
8. monthly average and / or daily maximum reporting requirement for flow, surface loading rates, number of discharge days per month, TSS, and TSS percent removal for the duration of the permit, and $CBOD_5$ and $CBOD_5$ percent removal until March 31, 2009; and
9. daily maximum water quality based *E. coli* bacteria concentration limit and daily maximum BPT based TRC concentration limit established pursuant to the previous Class C receiving water classification until May 14, 2011;

2. PERMIT SUMMARY (cont'd)

Additional Areas

10. previously established minimum monitoring frequency and sample type requirements, except as otherwise noted;
11. requirements to notify the Department of changes in the influent waste-stream;
12. requirements to maintain a current wet weather flow management plan for the facility;
13. requirements to maintain a current Operations and Maintenance Plan for the facility;
14. authorization to receive and introduce up to a maximum of 20,000 gallons per day of septage pursuant to Department rule and as conditioned and revised herein; and
15. provisions for reopening the permit for modification.

This permitting action is different from the June 6, 2003 MEPDES Permit / Maine WDL in that it is:

Secondary Treated Wastewaters:

1. combining the previous Augusta Sanitary District and Hallowell Water District wastewater discharge limits and requirements;
2. establishing requirements for a minimum of 85% removal of $CBOD_5$ and TSS;
3. establishing monthly average and daily maximum water quality based *E. coli* bacteria concentration limits and daily maximum water quality based TRC concentration limit based on previous Class B receiving water classification standards and Department BPJ beginning May 15, 2010, pursuant to reclassification of the receiving water;
4. establishing monthly average water quality based mass and concentration limits for inorganic arsenic based on facility toxicity testing results, with a schedule of compliance that delays the effective date of the limits until the USEPA approves of a test method for inorganic arsenic, and interim procedures for monitoring and reporting total arsenic; and
5. establishing updated whole effluent toxicity (WET), analytical chemistry, and chemical specific (priority pollutant) testing requirements pursuant to Department rules Chapter 530, *Surface Water Toxics Control Program*, Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*;

CSO-Related Bypasses of Secondary Treatment (Outfall #001B):

6. replacing reporting requirements for $CBOD_5$ and $CBOD_5$ percent removal with BOD_5 and BOD_5 percent removal beginning April 1, 2009; and
7. establishing daily maximum water quality based *E. coli* bacteria and TRC concentration limits based on previous Class B receiving water classification standards and Department BPJ beginning May 15, 2011, pursuant to upgrade of the receiving water with interim compliance milestones and dates;

2. PERMIT SUMMARY (cont'd)

Additional Areas

8. establishing revised conditions and milestones for wastewater discharge through Combined Sewer Overflows (CSOs);
9. establishing revised requirements pursuant to the Department's Industrial Pretreatment Program;
10. establishing requirements to develop Toxicity Reduction Evaluation plans to outline strategies to identify the sources and action items to be implemented to eliminate exceedences of human health criteria associated with arsenic testing; and
11. establishing requirements to report annually on any changes to the influent waste-stream or facility operations that may result in increases in the toxicity of the discharge.

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

January 27, 1998 – The Department issued WDL renewal #W-002695-47-E-R to the Augusta Sanitary District (ASD) for the discharge of sanitary wastewater, excess storm flows, and CSO flows to the Kennebec River and tributaries, Classes C and B. The WDL was issued for a five-year term and superseded all previous WDLs back to the oldest in Department files, which was issued on September 26, 1979.

September 28, 1998 – The Department issued water quality certification #W-002695-68-F-N certifying that the discharge proposed in a pending NPDES permit was in compliance with applicable sections of the Federal Water Pollution Control Act and State law.

September 29, 1998 - The USEPA issued a renewal of the NPDES Permit #ME0100013. The NPDES Permit authorized the discharge of a monthly average flow of 8.0 MGD until upgrade of the Augusta POTW and 12.0 MGD from upgrade of the facility through expiration of the permit on March 31, 2003. The 1998 NPDES Permit superseded previous NPDES permits issued on October 1, 1990 and March 29, 1985.

April 5, 1999 – The Department issued WDL modification #W-002695-5M-G-M to the ASD, increasing mass limitations for $CBOD_5$ and TSS following upgrade of the facility to provide primary treatment for storm event flows in excess of design flows of the secondary treatment portion of the plant.

December 1999 – The Augusta Sanitary District completed a major upgrade of the their wastewater treatment facility to improve preliminary and primary wastewater treatment processes, maximize flow receiving secondary treatment, and improve sludge handling and dewatering processes.

2. PERMIT SUMMARY (cont'd)

May 23, 2000 - Pursuant to State law, 38 M.R.S.A. §420 and §413 and Department rule, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001), the Department modified WDL #W-002695-5M-G-M, by establishing interim effluent limits and monitoring requirements for mercury.

June 6, 2003 - The Department issued WDL #W-002695-5M-H-R / MEPDES Permit #ME0100031 for the discharge of up to a monthly average of 8.0 MGD of secondary treated sanitary wastewater and an unspecified quantity of excess combined primary treated sanitary wastewater and stormwater from the Augusta POTW and an unspecified quantity of untreated storm water and sanitary wastewaters from twenty-four (24) CSOs to the Kennebec River and tributaries, Classes C and B. The Permit/WDL incorporated the terms and conditions of the MEPDES permit program and was issued for a five-year term.

June 23, 2003 – The Department issued WDL #W-007532-5T-C-R / MEPDES Permit #ME0101010 to the Hallowell Water District for the discharge of an unspecified quantity of untreated storm water and sanitary wastewater from one (1) CSO to the Kennebec River, Class C. The Permit/WDL incorporated the terms and conditions of the MEPDES permit program, was issued for a five-year term, and superseded previous WDLs #W-007532-58-B-R issued January 13, 1997 and #W-007532-45-A-N issued on October 7, 1987.

April 10, 2006 – The Department issued a Modification of WDL #W-002695-5M-H-R / MEPDES Permit #ME0100031 to revise toxicity testing requirements for the ASD facility pursuant to Department rule 06-096 CMR, Chapter 530, Surface Water Toxics Control Program, and Department rule 06-096 CMR Chapter 584, Surface Water Quality Criteria for Toxic Pollutants.

January 1, 2008 – The District officially assumed operation for the Augusta Sanitary District, Augusta Water District and the sewer system of Hallowell Water District pursuant to approval by the voters of the cities of Augusta and Hallowell on November 6, 2007, and SP 621 and LD 1754, *An Act to Incorporate the Greater Augusta Utility District*, approved by Governor John E. Baldacci on June 22, 2007.

March 28, 2008 – The District submitted a timely application for renewal of its WDL / MEPDES Permit. The application was assigned WDL #W-002695-5M-I-R / MEPDES Permit #ME0100013.

2. PERMIT SUMMARY (cont'd)

d. Source Description: - The Augusta Sanitary District was created in 1955 and reformed into the Greater Augusta Utility District in 2008. The wastewater treatment facility receives sanitary wastewater flows from approximately 6,600 residential, commercial and industrial users in the City of Augusta and the towns of Hallowell, Manchester, Winthrop and Monmouth. There are three major commercial/industrial users of the system that generate wastewaters that include landfill leachate, septage processing, and a manufacturing facility.

The District 's sewer collection system is approximately 105 miles in length. It has 13 intown pump stations, 5 trunkline pump stations, 8 trunkline grinders, and is approximately 40% combined and 60% separated. On-site back-up power is provided at 3 intown and 5 trunkline pump stations. There are twenty four (24) remaining permitted CSOs associated with the collection system, which are listed in Special Condition K, Combined Sewer Overflows (CSO), of this permitting action. The following CSOs have been abated to the one-year, 24-hour storm event per the District's latest Long Term Control Plan dated December 2006.

#003	Jackson Ave.	Kennedy Brook, Class B
#005	Gage and Valley Streets	Kennebec River, Class B
#006	Freight Yard – Ryan Hill	Kennebec River, Class B
#007	RR Station – Depot Lot	Kennebec River, Class B
#031	Corner Winthrop & Commercial	Kennebec River, Class B

In addition, the discharge from the West Side Consolidation Conduit (WSCC, CSO Outfall #40) is designed not to activate until after the one-year storm as per the District's latest Long Term Control Plan dated December 2006. All flows from this structure are screened via a self cleaning six millimeter screen prior to discharge to the Kennebec River. The District is authorized to receive and introduce into the treatment process or solids handling stream up to a maximum of 20,000 GPD of septage, pursuant to Permit Special Condition J.

e. Wastewater Treatment: The District completed a major upgrade of the wastewater treatment facility in 1999. The primary purpose of the upgrade was to abate discharges bypassing the wastewater treatment facility by improving preliminary and primary treatment along with maximizing flow receiving secondary treatment and improving sludge handling and dewatering processes.

Secondary Treatment

With the upgrades completed in 1999, the District is capable of providing a secondary level of treatment of flows of up to a monthly average of 8.0 MGD, a daily maximum of 12.0 MGD, and a peak instantaneous flow of 16.7 MGD. Flows are conveyed into the wastewater treatment facility via two 42-inch diameter

2. PERMIT SUMMARY (cont'd)

interceptor pipes, capable of delivering up to 29 MGD to the treatment facility. During dry weather flows, a secondary level of treatment is provided via two mechanical screens, two aerated grit chambers, three primary settling tanks (two 55-foot diameter and one 80-foot diameter), two aeration tanks (high purity oxygen reactor tanks), three 80-foot diameter secondary clarifiers and two chlorine contact chambers where sodium hypochlorite is utilized as a disinfectant. Flows are measured via two 36-inch parshall flumes, one located after the grit chamber but before the flow distribution structure and another located just prior to the chlorine contact chamber.

Treated effluent is discharged to the Kennebec River via a 36-inch diameter ductile iron pipe. The pipe, which does not have a diffuser, extends approximately 100 feet out into the main river channel to a depth of approximately 7½ feet over the crown of the pipe at mean low water. It is noted that though the Kennebec River is tidal at the point of discharge, it is dominated by freshwater from upstream. See Attachment B of this Fact Sheet for a schematic of the treatment facility.

Wet Weather Flows (Primary Treatment – Phase I)

During wet weather events, flows up to 36 MGD (29 MGD from the two 42-inch interceptor pipes plus up to 7.0 MGD from the West Side Consolidation Conduit (WSCC)) pass through the preliminary and primary treatment component of the plant (screening, grit removal, primary clarification). At flow distribution structure #2, flows of up to at least 12 MGD are conveyed to the secondary treatment process and the balance of the flow up to 24 MGD is conveyed to a dedicated high-rate disinfection system with dechlorination capabilities. After disinfection, the primary treated flow is combined with the secondary treated flow (after the secondary treatment disinfection chamber) prior to discharge to the river via Outfall #001A. Flows receiving primary treatment are measured by way of a flow meter located after the disinfection chamber. It is noted the Wet Weather Flow Management Plan for the facility was last updated and approved by the Department in July 2007.

Wet Weather Flows (Phase II)

In January 2003, District completed construction of the WSCC, a precast structure measuring 3,700-feet long, 10-feet wide and 6-feet high with a volume of 1.5 million gallons. The WSCC serves to intercept, capture and transport peak flows of up to a flow rate of 46,527 gallons per minute (67 MGD) and has been designed to accept up to an additional flow rate of 13,890 to 22,200 gallons per minute (20 to 32 MGD) projected from future phases in the Combined Sewer Overflow Facilities Plan. The WSCC provides both in-line and off-line treatment/storage capabilities through maximizing the storage volume of the existing West Side Interceptor. The WSCC has a wet-weather overflow structure that discharges screened combined sewage during wet-

weather events that exceed the WSCC design capacity. This structure is being regulated in this permitting action as Outfall #040 in Special Condition K, *Combined Sewer Overflows (CSOs)*.

3. CONDITIONS OF PERMITS

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

4. RECEIVING WATER STANDARDS

Maine law, 38 M.R.S.A., Sections 467(4)(A)(12) and (13) indicate the Kennebec River and tributaries at the points of discharge are classified as Class B waterways. Maine law, 38 M.R.S.A., Section 465-B(3) establishes the classification standards of Class B waters.

Maine law, 38 M.R.S.A., Section 467(4)(A)(13) further states that "*the Legislature finds that the free-flowing habitat of…*" the Kennebec River containing discharge points from the District from the Father John J. Curran Bridge in Augusta downriver "*…provides irreplaceable social and economic benefits and that this use must be maintained. Further, the license limits for total residual chlorine and bacteria for existing direct discharges of wastewater to this segment as of January 1, 2003 must remain the same as the limits in effect on that date and must remain in effect until June 30, 2009 or upon renewal of the license, whichever comes later. Thereafter, license limits for total residual chlorine and bacteria must be those established by the department in the license and may include a compliance schedule pursuant to section 414-A, subsection 2.*"

5. RECEIVING WATER CONDITIONS

The State of Maine 2006 *Integrated Water Quality Monitoring and Assessment Report* (DEPLW0817), prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act includes the receiving water in the designations *Kennebec River at Augusta, including Riggs Brook* (Assessment Unit ID ME0103000312_340R_02) and *Kennebec River at Hallowell* (Assessment Unit ID ME0103000312_340R_03) listed in

5. RECEIVING WATER CONDITIONS (cont'd)

Category 5-B, Rivers and Streams Impaired by Bacteria Contamination (TMDL Required). The listing identifies *E. coli* as the cause and includes a comment, "*estimate of affected river miles is not provided since it is highly variable depending on an overflow event*". Other reaches of the Kennebec River are included in other impairment categories of the report related to Dioxin and Polychlorinated biphenyls. All freshwaters in Maine are listed as only partially attaining the designated use of recreational fishing due to a fish consumption advisory (Category 5-C). The advisory was established in response to elevated levels of mercury in some fish caused by atmospheric deposition.

It is noted, during the summers of calendar years 1997 and 1998, the Department conducted an ambient water quality study on the Kennebec River from the Towns of Anson-Madison to Abagadasset Point in the Town of Richmond. The Kennebec River Model Report dated April 2000 was published by the Department. The model predicts that Maine water quality standards for dissolved oxygen will be maintained during summer time low river flow conditions at current point source loadings. Nutrient loadings and chlorophyll-a river data were evaluated as part of the model report. It was noted that nutrient loading may become a major water quality issue in the future. At the time of the study, the major source of phosphorous was from point sources with one industrial facility accounting for approximately 35% of the total point source load with a number of municipal wastewater treatment facilities contributing smaller quantities.

In response to the listings cited above, this permitting action establishes appropriate requirements for the CSOs listed based on Department policy. The Department has no information that the District causes or adversely contributes to the Dioxin or Polychlorinated biphenyl impairments on the Kennebec River. And finally, Maine law 38 M.R.S.A., §420 1-B,(B)(1) states that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413, subsection 11. A review of DMR data for the facility for the period of September 2003 through January 2008 indicates the permittee has been in compliance with the interim limits for mercury.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The comparisons below between effluent limitations and monitoring requirements contained in the previous permitting action and those contained in this permitting action are based on the former Augusta Sanitary District (ASD) and the existing District. The District consists of the former ASD and Hallowell Water District. However, the Hallowell facility's previous permitting action concerned only one CSO point.

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

Outfall #001A, Secondary Treated Effluent

a. Flow: The previous permitting action carried forward the monthly average flow limitation of 8.0 MGD and the daily maximum flow reporting requirement; both of which are being carried forward in this permitting action. The monthly average limit is considered to be representative of the monthly average design flow for the wastewater treatment facility. The daily maximum reporting requirement is a requirement common to other facility permits and is based upon Department best professional judgement (BPJ). A review of the Discharge Monitoring Report (DMR) data for the District for the period July 2003 through March 2008 indicates the following:

EFFLUENT FLOW (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	8.0 MGD	2.64-8.26 MGD	4.46 MGD	57
Daily Max	Report MGD	3.90-16.4 MGD	8.44 MGD	57

b. Dilution Factors - The Department has made the determination that the dilution factors associated with the discharge shall be calculated in accordance with freshwater protocols established in Department Regulation Chapter 530, *Surface Water Toxics Control Program*, October 2005. With a permit flow limit of 8.0 MGD and the 7Q10 and 1Q10 low flow values for the Kennebec River, the dilution factors are calculated as follows:

Modified Acute: ¼ 1Q10 = 520 cfs $\Rightarrow \frac{(520 \text{ cfs})(0.6464) + (8.0 \text{ MGD})}{(8.0 \text{ MGD})} =$ 43:1

Acute: 1Q10 = 2,079 cfs $\Rightarrow \frac{(2{,}079 \text{ cfs})(0.6464) + (8.0 \text{ MGD})}{(8.0 \text{ MGD})} =$ 169:1

Chronic: 7Q10 =2,538 cfs $\Rightarrow \frac{(2{,}538 \text{ cfs})(0.6464) + (8.0 \text{ MGD})}{(8.0 \text{ MGD})} =$ 206:1

Harmonic Mean: = 5,618 cfs $\Rightarrow \frac{(5{,}618 \text{ cfs})(0.6464) + (8.0 \text{ MGD})}{(8.0 \text{ MGD})} =$ 455:1

Chapter 530.4.B(1) states that analyses using numeric acute criteria for aquatic life must be based on ¼ of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. 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. Based on the location of the outfall pipe, its lack of a diffuser structure, and instream hydrology information collected by the Department in 1999 and contained in a 2000 modeling report, the Department has made the determination that the discharge does not receive rapid and complete mixing with the receiving water. Therefore, the Department is utilizing the default stream flow of ¼ of the 1Q10 pursuant to Chapter 530 in acute evaluations.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

c. Carbonaceous Biochemical Oxygen Demand ($CBOD_5$): The previous permitting action carried forward monthly average, weekly average and daily maximum concentration limits, monthly average and weekly average mass limits, and a daily maximum mass reporting requirement for $CBOD_5$. Typically, the Department establishes effluent limitations for BOD_5 for facilities that do not nitrify or complete the nitrification process through internal process control measures. BOD_5 is the measure of the total oxygen demand from both nitrogenous and carbonaceous components in a wastewater. Because the District has a high rate activated sludge process, the treatment process does not give the operator(s) of the facility the flexibility to control the nitrification process once it begins. Department rule Chapter 525(3)III authorizes the permitting authority to substitute $CBOD_5$ limitations for BOD_5 and the Department is doing so in this permitting action based on the facility-specific conditions outlined herein and BPJ.

This permitting action carries forward the monthly and weekly average $CBOD_5$ concentration limitations of 25 mg/L and 40 mg/L respectively, pursuant to Department rule Chapter 525(3)III. The daily maximum $CBOD_5$ concentration limit of 45 mg/L is also being carried forward from the previous permitting action and is considered a Department BPJ of best practicable treatment (BPT) limitation. The monthly average and weekly average mass limitations were and are based on the monthly average flow limit of 8.0 MGD and the applicable concentration limits, and are calculated as follows:

Monthly average: (8.0 MGD)(8.34 lbs/gal)(25 mg/L) = 1,668 lbs/day
Weekly average: (8.0 MGD)(8.34 lbs/gal)(40 mg/L) = 2,668 lbs/day

No daily maximum mass limit for $CBOD_5$ has been established in this permit (or the previous permit) due to the presence of CSOs in the collection system. Establishing such a limit would likely discourage the District from treating as much wastewater as the plant can physically treat during wet weather events. However, pursuant to Standard Condition B(2) of this permit, the District shall maximize its capacity to treat as much wastewater to a secondary level of treatment as possible during wet weather events. This permitting action establishes a monthly average 85% percent removal requirement for $CBOD_5$ pursuant to Department rule Chapter 525(3)III.

A review of the DMR data for the District for the period July 2003 through March 2008 indicates the following:

$CBOD_5$ MASS (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	1,668 lbs/day	170-699 lbs/day	313 lbs/day	57
Weekly Avg	2,668 lbs/day	226–1,618 lbs/day	478 lbs/day	57
Daily Max	Report lbs/day	248–2,978 lbs/day	868 lbs/day	57

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

Outfall #001A, Secondary Treated Effluent

$CBOD_5$ CONCENTRATION (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	25 mg/L	5-16 mg/L	8 mg/L	57
Weekly Avg	40 mg/L	6-42 mg/L	12 mg/L	57
Daily Max	45 mg/L	7-80 mg/L	21 mg/L	57

d. Total Suspended Solids (TSS) – The previous permitting action carried forward monthly average and weekly average TSS BPT based concentration limits of 30 mg/L and 45 mg/L respectively, that are based on secondary treatment requirements in Department rule Chapter 525(3)(III). The daily maximum concentration limit of 50 mg/L was based on a Department BPJ of BPT. All three concentration limits are being carried forward in this permitting action, common to all permits for publicly owned treatment works permitted by the Department. The monthly average and weekly average technology based mass limits were based on the monthly average flow limitation of 8.0 MGD and the applicable concentration limits and are also being carried forward in this permitting action. The mass limits are calculated as follows:

Monthly average: (8.0 MGD)(8.34 lbs/gal)(30 mg/L) = 2,002 lbs/day
Weekly average: (8.0 MGD)(8.34 lbs/gal)(45mg/L) = 3,002 lbs/day
Daily maximum: Report Only

As with $CBOD_5$, no daily maximum mass limits for TSS have been established as doing so may discourage the District from maximizing the use of the secondary treatment process during wet weather events. This permitting action establishes a monthly average 85% percent removal requirement for TSS pursuant to Department rule Chapter 525(3)III.

A review of the DMR data for the Greater Augusta UD facility for the period July 2003 through March 2008 indicates the following:

TSS MASS (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	2,002 lbs/day	142-710 lbs/day	327 lbs/day	57
Weekly Avg	3,002 lbs/day	215–2,441 lbs/day	531 lbs/day	56
Daily Max	Report lbs/day	305–4,589 lbs/day	1,062 lbs/day	54

TSS CONCENTRATION (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	30 mg/L	4-17 mg/L	8 mg/L	54
Weekly Avg	45 mg/L	5-29 mg/L	12 mg/L	54
Daily Max	50 mg/L	7-70 mg/L	22 mg/L	54

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

e. Settleable Solids - The previous permitting action carried forward a daily maximum concentration limit of 0.3 ml/L (considered by the Department to be representative of BPT) with a monitoring frequency of 1/Day, which are being carried forward in this permitting action. A review of the DMR data for the District for the period July 2003 through March 2008 revealed an effluent settleable solids range of values of 0.0-0.3 ml/L, with 49 of the 57 reported values indicated as 0.0 ml/L.

f. *Escherichia coliform (E. coli)* bacteria: The previous permitting action carried forward monthly average and daily maximum *E. coli* bacteria limits of 142 colonies/100 ml and 949 colonies/100 ml respectively, based on the State of Maine Water Classification Program criteria for Class C waters in place at the time. Subsequent to the June 6, 2003 permitting action, the Kennebec River and tributaries at the points of discharge were reclassified as Class B waterways and more stringent ambient water quality criteria (AWQC) of *E. coli* bacteria were adopted by the Maine Legislature.

As described in Fact Sheet Section 4, Maine law, 38 M.R.S.A., Section 467(4)(A)(13) states that "…*the license limits for total residual chlorine and bacteria for existing direct discharges of wastewater to this segment as of January 1, 2003 must remain the same as the limits in effect on that date and must remain in effect until June 30, 2009 or upon renewal of the license, whichever comes later. Thereafter, license limits for total residual chlorine and bacteria must be those established by the department in the license and may include a compliance schedule pursuant to section 414-A, subsection 2.*"

The permittee requested a schedule of compliance to meet the revised limits for *E. coli* bacteria and total residual chlorine, noting that the amount of work necessary to complete the Department-approved Phase III CSO abatement project as well as necessary facility infrastructural and operational improvements will make compliance by the June 30, 2009 date specified in statute impossible. The District notes that the Phase III CSO and facility upgrade project includes modifications of the Westside Consolidated Conduit and Westside Interceptor, the facility grit removal system, secondary effluent disinfection and CSO disinfection systems, replacement of two pump stations with a combined dry and wet weather pump station, off line storage, and improvement to gravity and force mains systems. The District proposes to address portions of the project more closely related to the wastewater treatment facility first, enabling attainment of the revised limits for Outfall
#001A by May 15, 2010. Project improvements more closely related to CSO discharges and a schedule of compliance for Outfall #001B are addressed in Fact Sheet Section 6 (end). Accordingly, from the effective date of this permitting action until May 14, 2010, the previous Class C AWQC based *E. coli* bacteria limits of 142 colonies / 100 ml (monthly average) and 949 colonies / 100 ml (daily maximum) shall apply. Beginning May 15, 2010, *E. coli* bacteria limits of 64 colonies / 100 ml (monthly average) and

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

427 colonies / 100 ml (daily maximum) shall apply. The revised limits correspond to the Class B *E. coli* bacteria AWQC standards in place when the receiving waters were reclassified. The Department has made the BPJ determination that, after taking into consideration the dilution associated with the discharge, the BPT limits established in this permitting action are protective of the newer AWQC for bacteria. Pursuant to Department rule Chapter 523, Section 7, interim milestones are not required, as the schedule of compliance is less than one year from the June 30, 2009 date specified.

E. coli bacteria limits and monitoring requirements are seasonal and apply between May 15th and September 30th of each year. The Department reserves the right to require disinfection on a year-round basis to protect the health and welfare of the public. A review of the DMR data for the District for the period July 2003 through September 2007 indicates the following:

***E. coli* Bacteria (OUTFALL #001A)**

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	142/100 ml	3-285 ml	44 ml	22
Daily Max	949/100 ml	15-2,419 ml	671 ml	22

g. Total Residual Chlorine (TRC) - The previous permitting action carried forward a daily maximum technology based limit of 1.0 mg/L for the discharge. Limits on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of the water quality or technology based limits in permitting actions. End-of-pipe water quality based concentration thresholds may be calculated as follows:

Criterion (mg/L)		Dilution Factors		Calculated Limit (mg/L)	
Acute (A)	Chronic C	Acute	Chronic	Acute	Chronic
0.019	0.011	43:1	206:1	0.82	2.27

Example calculation: Acute = 0.019 mg/L x 43 = 0.82 mg/L

The daily maximum water quality based limit of 0.82 mg/L is more stringent than the BPT based limit of 1.0 mg/L. Based on the provisions of 38 M.R.S.A., Section 467(4)(A)(13) specific to this receiving water and the permittee's request for a schedule of compliance described in Fact Sheet Section 6.f, the BPT based daily maximum TRC limit of 1.0 mg/L is being carried forward until May 14, 2010. Beginning May 15, 2010, the water quality based limit of 0.82 mg/L shall apply. The previous permitting action established a monitoring frequency of 2/day, which is being carried forward in this permitting action. TRC limits and monitoring requirements are applicable whenever elemental chlorine or chlorine based compounds are being used to disinfect the discharge.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

A review of the DMR data for the District for the period July 2003 through September 2007 indicates the following:

TOTAL RESIDUAL CHLORINE (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Daily Max	1.0 mg/L	0.8-1.1 mg/L	0.94 mg/L	22

h. Total Phosphorus – The previous permitting action established reporting requirements for the monthly average and daily maximum mass and concentration levels of total phosphorus discharged. Monitoring was required at a frequency of once per week from June 1 through September 30, 2003, and once per month from June 1 through September 30 each year thereafter. This requirement was established to provide the Department with the ability to continually update the river model developed by the Department in 2000 to predict potential algal blooms that may lead to depressed ambient dissolved oxygen conditions. In this permitting action, the monthly average and daily maximum mass and concentration reporting requirements are being carried forward at a required minimum monitoring frequency of once per month. A review of the DMR data for the District for the period July 2003 through September 2007 indicates the following:

TOTAL PHOSPHORUS MASS (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	Report lbs/day	50-268 lbs/day	140 lbs/day	17
Daily Max	Report lbs/day	84-363 lbs/day	197 lbs/day	17

TOTAL PHOSPHORUS CONCENTRATION (OUTFALL #001A)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	Report mg/L	1.9-10.7 mg/L	5.2 mg/L	17
Daily Max	Report mg/L	3.8-15.4 mg/L	7.65 mg/L	17

i. pH Range- The previous permitting action established a BPT pH range limitation of 6.0 – 9.0 standard units pursuant to Department rule found at Chapter 525(3)(III)(c) and a monitoring frequency of 1/day, typically established for wastewater treatment facilities based on Department BPJ. The Department reviewed DMR data for District for the period of July 2003 through March 2008. This review revealed 57 data points for monthly average with a range of values from 6.0-7.1 standard units (su) and 57 data points for daily maximum with a range of values of 6.6-7.9 su. Both the pH range limitation and minimum monitoring frequency are being carried forward in this permitting action.

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

Outfall #001A, Secondary Treated Effluent

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

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

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

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

Level I – chronic dilution factor of <20:1.
Level II – chronic dilution factor of $\geq$20:1 but <100:1.
Level III – chronic dilution factor $\geq$100:1 but <500:1 or >500:1 and Q $\geq$1.0 MGD
Level IV – chronic dilution >500:1 and Q $\leq$1.0 MGD

Department rule Chapter 530 (2)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the permittee's facility falls into the Level III frequency category as the facility has a chronic dilution factor of between 100:1 and 500:1. Chapter 530(2)(D)(1) specifies that default surveillance and screening level testing requirements are as follows:

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

Outfall #001A, Secondary Treated Effluent

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

Screening level testing - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter.

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

A review of the data on file with the Department indicates that to date, the District fulfilled the WET and Chemical-Specific testing requirements of the former Chapter 530.5 as established in the previous permitting action. Pursuant to the April 10, 2006 Permit Modification for testing, the District was required to conduct WET testing and Priority Pollutant testing once per year and Analytical

Chemistry testing once per quarter during the June 2007 – June 2008 screening year. The Department's records indicate that the District has conducted and submitted its required screening year testing in compliance with these requirements. See Attachment C of this Fact Sheet for a summary of the WET test results and Attachment D of this Fact Sheet for a summary of the chemical-specific test dates.

<u>WET test evaluation</u>

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

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

Outfall #001A, Secondary Treated Effluent

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

On September 11, 2008, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department in accordance with the statistical approach cited above. The statistical evaluation indicates the discharge from the permittee's wastewater treatment facility does not exceed or have a reasonable potential to exceed the critical acute (2.3%) or chronic (0.48%) water quality thresholds for any of the WET species tested to date. Therefore, no numeric limitations for any WET species tested to date are being established in this permitting action. It is noted, the critical water quality thresholds expressed in percent (%) were derived as the mathematical inverse of the acute (43:1) and chronic (206:1) dilution factors.

As for testing frequencies, Chapter 530(2)(D)(3)(b) states in part that Level III facilities "*… 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)*". Based on the results of the 09/11/08 statistical evaluation, the permittee qualifies for the testing waiver. Therefore, this permit action establishes a screening level WET testing requirements as follows:

Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter

Level	WET Testing
III	1 per year

Special Condition N, *Chapter 530(2)(D)(4) Certification,* of this permitting action requires the permittee to file an annual certification with the Department.

It is noted however that if future WET testing results indicate the discharge exceeds critical water quality thresholds this permit will be reopened pursuant to Special Condition Q, *Reopening of Permit For Modification,* of this permit to establish applicable limitations and monitoring requirements.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

Chemical specific testing evaluation

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

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

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

One aspect of the new Chapter 530 rule found in Section 4(F) is evaluating toxic pollutant impacts on a watershed basis. Section 4(F) states, "*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 Department is currently working to construct a computer program model to conduct this analysis. Until such time the model is complete and a multi-discharger statistical evaluation can be conducted, the Department is evaluating the impact of the District's discharge assuming it is the only discharger to the river. Should the multi-discharger evaluation indicate

there are parameters that exceed or have a reasonable potential to exceed applicable AWQC,

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

this permit may be reopened pursuant to Special Condition Q, *Reopening of Permit For Modifications*, to incorporate additional limitations and or revise monitoring requirements.

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

As with WET test results, on September 11, 2008, the Department conducted a statistical evaluation on the most recent 60 months of chemical specific test results on file with the Department in accordance with the statistical approach outlined in Chapter 530. The statistical evaluation indicates the discharge has one (1) test result for arsenic that exceeds the human health consumption criteria for water and organisms. All other parameters evaluated do not exceed or have a reasonable potential to exceed the acute, chronic or human health AWQC.

Based on the 09/11/08 statistical evaluation, the human health criteria critical exceedence thresholds are as follows:

Parameter	AWQC / Human Health Criteria	Exceedence / RP threshold
Arsenic	Human Health (W/O): 0.012 ug/L	4.10 ug/L (E)

Based on the criteria above, the following test results in the most recent 60-months have a reasonable potential to exceed or exceed AWQC or human health criteria.

Date	Parameter	Test result
01/27/08	Arsenic	5.0 ug/L (E)

As required in Permit Special Condition M within forty-five (45) days of the effective date of this permit, the permittee shall submit to the Department for review and approval, a TRE plan which outlines a strategy to identify the source(s) and action items to be implemented to eliminate exceedences of human health criteria associated with arsenic.

Chapter 530 §(3)(D) states "Expression of effluent limits. Where the need for effluent limits has been determined, limits derived from acute water quality criteria must be expressed as daily maximum values. Limits derived from chronic or human health criteria must be expressed as monthly average values." Therefore, this permit establishes monthly average end-of-pipe (EOP) mass and concentration limits for arsenic. The derivation for these limits is as follows:

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

Arsenic (inorganic)

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]
HHWO Criteria = 0.012 ug/L Harmonic mean dilution factor = 455:1

Chronic EOP = [455 x 0.75 x 0.012 ug/L] + [0.25 x 0.012 ug/L] = 4.1 ug/L

Based on a monthly average design flow of 8.0 MGD as used in other effluent limits, EOP mass limits are as follows:

Parameter	Calculated EOP Concentrations	Monthly Avg. Mass Limit	Daily Maximum
Arsenic	4.1 ug/L	0.27 lbs/day	N/A

Calculation: Chronic - $\frac{(4.1 \text{ ug/L})(8.34)(8.0 \text{ MGD})}{1000 \text{ ug/mg}}$ = 0.27 lbs/day

Chapter 530 §(3)(D)(1) states "*For specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded. With regard to concentration limits, the Department may review past and projected flows and set limits to reflect proper operation of the treatment facilities that will keep the discharge of pollutants to the minimum level practicable.*" The Department typically adjusts effluent concentration limits so as not to penalize the permittee for operating at flows less than the monthly average design flow. In this permitting action this is complicated by the uncertainty of the ratio between organic and inorganic fractions of total arsenic. Therefore, 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. Refer to the discussion and calculations on page 23 of this Fact Sheet. Arsenic limits are based on risks from long-term exposure, therefore, though the effluent limit is expressed as a monthly average, the Department will evaluate compliance as an annual average.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

Chapter 530 does not establish specific monitoring frequencies for parameters that exceed or have a reasonable potential to exceed AWQC. This permitting action is establishing the monitoring requirement frequency for arsenic based on BPJ given the timing, frequency and severity of the exceedences and reasonable potentials to exceed AWQC. The Department is establishing the monitoring frequency for arsenic at 1/year based on best professional judgment that routine surveillance level monitoring is sufficient to determine on-going compliance with the AWQC.

With the exceptions of arsenic, monitoring frequencies for priority pollutant and analytical testing established in this permitting action are based on the Chapter 530 rule. Chapter 530 §(2)(D)(3)(b) states in part that Level III facilities "… *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)"*. It is noted Chapter 530 §(2)(D)(1) does not require priority pollutant testing during the surveillance level testing years. Based on the results of the 09/11/08 statistical evaluation, the permittee qualifies for the testing waiver for the Analytical Chemistry requirement.

For screening level testing, Chapter 530 §(2)(D)(1) requires that beginning 12 months prior to the expiration date of the permit, chemical testing shall be conducted at a frequency of 1/Year for priority pollutant testing and 1/Quarter for analytical chemistry. Therefore, this permit action establishes a screening level analytical chemistry and priority pollutant testing requirements as follows:

Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter

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

It is noted however that if future WET or chemical testing indicates the discharge exceeds critical water quality thresholds or AWQC, this permit will be reopened pursuant to Special Condition Q, *Reopening of Permit For Modification*, to establish applicable limitations and monitoring requirements. In addition, if future test results of concern fall outside the 60-month evaluation timeframe or a sufficient number of tests removes the reasonable potential to exceed AWQC, the permittee may request a modification of the permit to remove applicable limitations and or reduce the monitoring frequency.

As with WET testing, Special Condition N, *Chapter 530 (2)(D)(4) Certification*, of this permitting action requires the permittee to file an annual certification with the Department.

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

Outfall #001A, Secondary Treated Effluent

Total / Inorganic Arsenic: The Department notes that special circumstances surround the establishment of effluent limits and monitoring requirements for arsenic. Department rule Chapter 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 then, 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. As a result, Special Condition P, *Schedule of Compliance* of this permit establishes a schedule of compliance for the limitations and monitoring requirements for inorganic arsenic beginning upon issuance of this permit and lasting through the date in which the USEPA approves a test method for inorganic 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 to tend to have higher fractions of inorganic arsenic (As^{+3}-arsenite 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 develops a larger dataset to establish statistically defensible ratios of inorganic and organic fractions in total arsenic test results, the Department is making a 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 4.1 ug/L for inorganic arsenic calculated above into an equivalent total arsenic threshold (assuming 50% of the total arsenic is

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

inorganic arsenic). This results in a total arsenic end-of-pipe monthly average concentration threshold of 8.2 ug/L. The calculation is as follows:

$$\frac{\text{4.1 ug/L inorganic arsenic}}{\text{0.5 ug/L inorganic arsenic/ 1.0 ug/L total arsenic}} = \text{8.2 ug/L total arsenic}$$

Therefore, a total arsenic value greater than 8.2 ug/L is potentially exceeding the water quality based end-of pipe monthly average concentration value of 4.1 ug/L for inorganic arsenic. However, the Department's most current reporting limit (RL) for total arsenic is 5 ug/L and 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 results greater than the total arsenic threshold of 8.2 ug/L or the Department's RL at the time of sampling (whichever is higher) will be considered a potential exceedence of the inorganic limit of 4.1 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 P, *Schedule of Compliance*, of this permit establishes a schedule as follows:

> *Beginning upon issuance of this permit 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 Monitoring Requirements, of this permit to conduct 1/year sampling and analysis for total arsenic.*

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

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.

Department rule Chapter 523, Waste Discharge License Conditions, § 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 Department rule, Chapter 523, *Waste Discharge License Conditions*, Section 7, *Schedules of Compliance*, Sub-section 3, *Interim dates.*

k. Mercury: Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W-002695 by establishing interim monthly average and daily maximum effluent concentration limits of 15.7 parts per trillion (ppt) and 23.6 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements,* of this permit as the limits and monitoring

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfall #001A, Secondary Treated Effluent

frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.

The Department reviewed DMR data for District for the period of September 2003 through January 2008 and found the following information.

MERCURY CONCENTRATION (OUTFALL #001A)

Minimum	Maximum	Average	#Values
2.4 ppt	18.3 ppt	6.3 ppt	19

l. Septage – The previous permitting action authorized the permittee to receive and introduce up to a maximum of 20,000 gallons of septage per day into the District's wastewater treatment process, which is being carried forward in this permitting action. Septage, for the purposes of this permit, shall mean 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. Acceptance of any other wastes must be evaluated by the Department. Additional requirements are contained in Permit Special Condition J, *Disposal of Septage Waste in Wastewater Treatment Facility.*

Outfall #001 B, CSO-Related Bypasses of Secondary Treatment

For those 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 BPJ determination that primary treatment and disinfection constitutes appropriate and BPT. This permitting action establishes appropriate requirements for the District's CSOs based on Department policy, including updating the CSO Master Plan, implementation of CSO abatement milestones, and best management practices to bring about the reduction and future elimination of CSO wet weather events. Permit Special Condition K, *Combined Sewer Overflows*, contains a schedule of compliance for items in the most current up-to-date abatement plan that must be completed. The District is continuing to evaluate these milestones and dates and may need to reopen and modify the Permit accordingly (Special Condition Q). The only limitations that have been established for this waste stream are daily maximum limitations for *E. coli* bacteria and TRC. Based on the provisions of 38 M.R.S.A., Section 467(4)(A)(13) as specific to this receiving water and as described in Fact Sheet Section 6.f, limits for *E. coli* bacteria and TRC established in the previous permitting action pursuant to Class C waters are to be carried forward until June 30, 2009 or an alternate date pursuant to an appropriate schedule of compliance, at which time

Outfall #001B, CSO-Related Bypasses

revised limits become effective. The revised limits for Outfall #001B are the same as the daily maximum limits for these parameters established for Outfall #001A described in Fact Sheet Sections 6.f and 6.g.

The permittee requested a schedule of compliance to meet the revised limits for *E. coli* bacteria and TRC, noting that the amount of work necessary to complete the Department-approved Phase III CSO abatement project as well as necessary facility infrastructural and operational improvements will make compliance by the June 30, 2009 date specified in statute impossible. The District proposes to address portions of the project more closely related to the wastewater treatment facility first, enabling attainment of the revised limits for Outfall #001A pursuant to the schedule described in Fact Sheet Section 6.f. Project improvements more closely related to CSO discharges and attainment of the revised limits for Outfall #001B require a different schedule.

Accordingly, from the effective date of this permitting action until May 14, 2011, the daily maximum *E. coli* bacteria limit of 949 colonies / 100 ml and TRC limit of 1.0 mg/L shall apply. Beginning May 15, 2011, the *E. coli* bacteria limit of 427 colonies / 100 ml and TRC limit of 0.82 mg/L shall apply. The *E. coli* limits are being revised from the previous Class C AWQC standards to the Class B AWQC standards in place when the receiving waters were reclassified. The TRC limits are being revised from BPT to water quality based limits. The Schedule of Compliance for Outfall #001B establishes interim milestones and deadlines, pursuant to Department rule Chapter 523, Section 7, *Schedules of Compliance*, which 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."*

If determined necessary based on progress achieved toward these goals and unforeseen issues, the permittee may propose revised schedule dates for the Department's consideration toward reopening and modification of the Permit (Special Condition Q).

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

Outfall #001B, CSO-Related Bypasses

The reporting requirements for the remaining parameters in Special Condition A(3) of this permit (Flow, Surface Loading Rate, Overflow Occurrences, $CBOD_5$, TSS, and percent removal rates are being carried forward in this permitting action. These are parameters the Department has deemed necessary to evaluate the performance of the primary treatment process.

The Department reviewed DMR data for District for the period of July 2003 through March 2008 and found the following information.

PRIMARY TREATED WASTEWATERS – OUTFALL #001B (INTERNAL WASTE STREAM)

EFFLUENT FLOW (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly total	Report MGD	0.032-38.14 MGD	5.58 MGD	51
Daily Max	Report MGD	0.032-9.42 MGD	2.48 MGD	51

SURFACE LOADING RATE (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Daily Max	Report gpd/sf	474-2,941 gpd/sf	1,185 gpd/sf	51

OVERFLOW USE, OCCURRENCES (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly	Report # of Days	0-13 days/month	3.5 days/month	51

CBOD CONCENTRATION (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Daily Max	Report mg/L	30-166 mg/L	86 mg/L	42

CBOD % REMOVAL (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	Report %	-57.8-72.6 %	19.3 %	48

TSS CONCENTRATION (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Daily Max	Report mg/L	21-396 mg/L	155 mg/L	43

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

Outfall #001B, CSO-Related Bypasses

TSS % REMOVAL (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Monthly Avg	Report %	-76.4-71.7 %	35.4 %	46

***E. coli* Bacteria (OUTFALL #001B)**

Value	Limit	Range of Values	Arithmetic Mean	# Values
Daily Max	949/100 ml	3-2,420 ml	1,203 ml	11

TOTAL RESIDUAL CHLORINE (OUTFALL #001B)

Value	Limit	Range of Values	Arithmetic Mean	# Values
Daily Max	1.0 mg/L	0.0-2.3 mg/L	0.33 mg/L	11

7. PRETREATMENT

The permittee shall develop, implement, and enforce an Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, the General Pretreatment Regulations found at 40 CFR 403, Department rule 06-096 CMR 528, Pretreatment Program, (effective March 17, 2008), and the requirements and materials in Permit Special Condition L and related Permit attachments.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The Department acknowledges that the elimination of the twenty-four (24) remaining CSOs in the collection system and the CSO-related bypasses of secondary treatment (primary treated only) of sanitary wastewater is a costly long term project. With the implementation of the CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO activities and in the wastewater receiving primary treatment only at the treatment plant and over time, improvement in the quality of the wastewater discharge to the receiving waters.

As permitted, the Department has determined the existing water uses will be maintained and protected.

9. PUBLIC COMMENTS

Public notice of this application was made in the Kennebec Journal newspaper on or about March 31, 2008. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

10. DEPARTMENT CONTACTS

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

Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Telephone (207) 287-6114
Fax (207) 287-3435
email: Robert.D.Stratton@maine.gov

11. RESPONSE TO COMMENTS

During the period of August 1, 2008 through September 2, 2008, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit / Maine Waste Discharge License to be issued to the Greater Augusta Utility District for the proposed discharge. On August 25, 2008, the Department received comments on the proposed draft MEPDES Permit / Maine WDL from the District and on August 26, 2008, the Department and the District met to discuss comments raised. Additionally, on September 2, 2008, the Department received comments from the National Oceanic Atmospheric Administration National Marine Fisheries Service (NOAA NMFS). The comments received and the Department's responses are included below.

Comment 1: <u>*E. coli* and Total Residual Chlorine compliance schedule.</u> The District requested a schedule of compliance to meet the proposed revised limits for *E. coli* bacteria and TRC, noting that the amount of work necessary to complete the Department-approved Phase III CSO abatement project as well as necessary facility infrastructural and operational improvements will make compliance by the June 30, 2009 date specified in statute impossible. The District notes that the Phase III CSO and facility upgrade project includes modifications of the Westside Consolidated Conduit and Westside Interceptor, the facility grit removal system, secondary effluent disinfection and CSO disinfection systems, replacement of two pump stations with a combined dry and wet weather pump station, off line storage, and improvement to gravity and force mains systems. The District proposes to address portions of the project more closely related to the wastewater treatment facility first,

11. RESPONSE TO COMMENTS (cont'd)

enabling attainment of the revised limits for Outfall #001A by May 15, 2010. Project improvements more closely related to CSO discharges and attainment of the revised limits for Outfall #001B would occur by May 15, 2011.

Response 1: The Department and the District discussed the work that needs to be done and appropriate compliance schedules at the meeting on August 26, 2008. Both parties are in agreement and these details are represented in the Permit and Fact Sheet.

Comment 2: CSO Impacts on Shortnose Sturgeon and Atlantic Salmon. Based on concerns of adverse effects of Combined Sewer Overflows (CSOs) on attainment of receiving water class standards and designated uses, NOAA NMFS recommends an annual monitoring program (Whole Effluent Toxicity and Chemical Specific) of CSO discharges to the Kennebec River to assist them in understanding any effects on shortnose sturgeon and Atlantic salmon in the Kennebec River.

Response 2: The Department concurs with concerns of adverse effects from CSOs on receiving waters and aquatic life standards. Based on these concerns, the Department is working with the District on a long-term CSO abatement program with milestones and deadlines as described in Permit Special Condition K. The Department notes that a CSO based annual monitoring program has been discussed in previous permitting actions, but that an alternate approach was agreed upon. In the 2003 MEPDES Permit / Maine WDL for the Hallowell WD, which is now part of the Greater Augusta Utility District, NOAA NMFS and the Department discussed short-term and long-term monitoring plans. Due to the infrequent nature of CSO discharges and the number of other communities that also maintain CSO outfalls to the Kennebec River, the two agencies agreed that it would be more comprehensive and cost effective to evaluate the potential impact of CSO discharges based on the entire watershed rather than community by community in isolation. The Department provided NOAA NMFS with information for each CSO contributing community consisting of effluent data, WET and Chemical Specific toxicity testing results, annual volumes and frequencies of occurrence of each CSO for each community, maps and aerial photos. This information was to be used for review and identification of facilities with the potential for adverse impacts to spawning areas, nurseries, or other suitable habitat for the shortnose sturgeon and development of recommendations to protect these habitats.

The Department continues to recommend a more comprehensive evaluation of potential CSO-related impacts within the watershed. Accordingly, the Department offers to share any and all information regarding regular wastewater discharges and CSO-related discharges from the District and other CSO communities / facilities for evaluation by NOAA NMFS. However, the Department does not believe it to be appropriate to incorporate WET or Chemical Specific testing requirements on the intermittent CSO discharges at this time.

ATTACHMENT A

(Facility Location Maps)

ATTACHMENT B

(Facility Site Plans)

ATTACHMENT C

(Whole Effluent Toxicity Reports)

ATTACHMENT D

(Chemical Specific Testing Reports)