May 20, 2008

Mr. Walter Field
Dover-Foxcroft Water District
48 Mortin Avenue, Suite B
Dover-Foxcroft, Maine 04426

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102229
Maine Waste Discharge License (WDL) Application #W007330-5S-C-R
Final MEPDES Permit Renewal

Dear Mr. Field:

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

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

If you have any questions regarding the matter, please feel free to call me at 287-7659.

Sincerely,

Bill Hinkel
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

pc: Clarissa Trasko, DEP
Sandy Lao, USEPA
File #7330

IN THE MATTER OF

DOVER-FOXCROFT WATER DISTRICT	)	MAINE POLLUTANT DISCHARGE
DOVER-FOXCROFT, PISCATAQUIS COUNTY	)	ELIMINATION SYSTEM PERMIT
DRINKING WATER TREATMENT PLANT	)	AND
#ME0102229	)	WASTE DISCHARGE LICENSE
#W007330-5S-C-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the *Federal Water Pollution Control Act*, Title 33 USC, §1251, *Conditions of licenses*, 38 M.R.S.A. § 414-A, and applicable regulations, the Maine Department of Environmental Protection (Department) has considered the application of the DOVER-FOXCROFT WATER DISTRICT (DFWD), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The DFWD has applied to the Department for a renewal of combination Waste Discharge License (WDL) #W007330-5S-B-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102229, which was issued on April 18, 2003 and expired on April 18, 2008. The 4/18/03 permit authorized a monthly average discharge of 0.15 million gallons per day (MGD) and a daily maximum of up to 0.25 MGD of filter cleaning (backwash) supernatant from a quasi-municipal drinking water treatment plant to Piscataquis River, Class B, in Dover-Foxcroft, Maine.

PERMIT SUMMARY

This permitting action is similar to the 4/18/03 permitting action in that it is:

1. Carrying forward the monthly average discharge flow limitation of 0.15 MGD;

2. Carrying forward the monthly average and daily maximum concentration and mass limits for total suspended solids (TSS);

3. Carrying forward the daily maximum concentration limit for settleable solids;

4. Carrying forward the daily maximum concentration and mass limits for total aluminum;

5. Carrying forward the pH range limitation; and

6. Carrying forward the minimum monitoring frequency requirement for all monitored parameters, except TSS.

PERMIT SUMMARY (cont'd)

This permitting action is different from the 4/18/03 permitting action in that it is:

1. Eliminating the daily maximum discharge flow limit and establishing a report only requirement;

2. Eliminating the daily maximum concentration limit for total residual chlorine (TRC);

3. Revising the minimum monitoring frequency requirement for TSS from once per week to twice per month; and

4. Establishing a quarterly monitoring and reporting requirement for total aluminum for an internal waste stream (Permit Compliance System identifier #100).

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated May 20, 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, *Classification of Maine waters*, 38 M.R.S.A. § 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (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 water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S.A. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of DOVER-FOXCROFT WATER DISTRICT to discharge a monthly average of up to 0.15 MGD of filter cleaning (clarifier rinse and backwash waste water) supernatant, and unspecified quantities of settling tank supernatant, and filter rinse water from a quasi-municipal drinking water treatment plant to Piscataquis River, Class B, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

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

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

3. The term of this permit is five (5) years from the date of signature.

DONE AND DATED AT AUGUSTA, MAINE, THIS ___ DAY OF _____, 2008
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 7, 2008
Date of application acceptance: April 9, 2008

Date filed with Board of Environmental Protection: _____.
This Order prepared by William F. Hinkel, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **drinking water filter cleaning (clarifier rinse and backwash waste water) supernatant, settling tank supernatant[(2)], and filter rinse water from Outfall #001A** to the Piscataquis River. Such discharges shall be limited and monitored by the permittee as specified below[(1)]:

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 *[50050]*	0.15 MGD *[03]*	Report MGD *[03]*	---	---	Daily *[01/01]*	Metered *[MT]*
TSS *[00530]*	8.8 lbs./day *[26]*	17.5 lbs./day *[26]*	30 mg/L *[19]*	60 mg/L *[19]*	2/Month *[02/30]*	Grab *[GR]*
Settleable Solids *[00545]*	---	---	---	0.3 ml/L *[25]*	1/Week *[01/07]*	Grab *[GR]*
Aluminum (Total) *[01150]*		6.3 lbs./day *[26]*		5.0 mg/L *[19]*	1/Quarter *[01/90]*	Grab *[GR]*
pH *[00400]*	---	---	---	5.5 – 8.5 SU *[12]*	1/Week *[01/07]*	Grab *[GR]*

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

FOOTNOTES: See pages 7-8 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

2. The permittee shall monitor **clarifier rinse waste waters via an internal waste stream #100** as specified below[(1) (3)]:

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
Aluminum (Total) *[01150]*		---		Report mg/L *[19]*	1/Quarter *[01/90]*	Grab *[GR]*

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

FOOTNOTES: See pages 7-8 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

FOOTNOTES:

1. **Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved 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. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the actual 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. Compliance with this permit will be evaluated based on whether or not a compound is detected at or above the Department's RL.

   Due to the intermittent nature of the DFWD's wastewater discharge, monitoring for all parameters shall be conducted through a grab sample collected at the midpoint of a multimedia filter backwash discharge. All effluent monitoring shall be conducted at the outlet weir of the facility settling tank and in such a manner as to capture conditions representative of wastewater generating processes at the facility. Any change in sampling location must be approved by the Department in writing.

SPECIAL CONDITIONS

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

FOOTNOTES:

2. **Settling Tank Discharges** – The permittee is authorized to discharge settling tank supernatant via Outfall #001A subject to the following conditions:

    a. The permittee shall continuously visually monitor any dewatering of the settling tank through Outfall #001A throughout the dewatering event to ensure that no settled materials are discharged;

    b. The permittee shall visually inspect the Piscataquis River at Outfall #001A following each settling tank de-watering event and/or each week and maintain a written record of each inspection; and

    c. The permittee shall monitor sludge levels in the settling tank on a weekly basis and maintain a written record of each inspection.

    Monitoring for the parameters specified in Special Condition A.1 of this permit is not required for settling tank supernatant or filter rinse water discharges via Outfall #001A.

3. **Internal Waste Stream #100 Monitoring** – Beginning upon issuance of this permit and lasting for a period of four calendar quarters (one year only), the permittee shall conduct total aluminum monitoring and reporting for internal waste stream #100 (clarifier rinse waste waters) at a minimum frequency of once per calendar quarter for four consecutive calendar quarters. The grab sample may consist of clarifier rinse waste waters from one or more filter beds and shall be collected from a spigot inside the treatment plant building, unless otherwise specified by the Department.

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. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on April 9, 2008; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. 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. This permit does not authorize the discharge of chlorinated or dechlorinated compounds.

D. NOTIFICATION REQUIREMENT

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

1. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system.

2. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and

   b. Any anticipated change in the quality and quantity of the waste water to be discharged from the treatment system.

E. 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 the Department's Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

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

SPECIAL CONDITIONS

F. OPERATION & MAINTENANCE (O&M) PLAN

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

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

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

G. REOPENING OF PERMIT FOR MODIFICATION

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

H. 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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

DATE: **MAY 20, 2008**

MEPDES PERMIT: **#ME0102229**
WASTE DISCHARGE LICENSE: **#W007330-5S-C-R**

NAME AND ADDRESS OF APPLICANT:

DOVER-FOXCROFT WATER DISTRICT
48 MORTON AVENUE, SUITE B
DOVER-FOXCROFT, MAINE 04426

COUNTY: **PISCATAQUIS**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

DOVER-FOXCROFT WATER DISTRICT
70 FLETCHER ROAD
DOVER-FOXCROFT, MAINE 04426

RECEIVING WATER / CLASSIFICATION: **PISCATAQUIS RIVER / CLASS B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **MR. WALTER FIELD**
(207) 564-2310

1. APPLICATION SUMMARY

a. Application: The Dover-Foxcroft Water District (DFWD) has applied to the Maine Department of Environmental Protection (Department) for a renewal of combination Waste Discharge License (WDL) #W007330-5S-B-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102229, which was issued on April 18, 2003 and expired on April 18, 2008. The 4/18/03 permit authorized a monthly average discharge of 0.15 million gallons per day (MGD) and a daily maximum of up to 0.25 MGD of filter cleaning (backwash) supernatant from a municipal drinking water treatment plant to Piscataquis River, Class B, in Dover-Foxcroft, Maine.

2. PERMIT SUMMARY

a. Terms and Conditions: **This permitting action is similar to the 4/18/03 permitting action in that it is:**

1. Carrying forward the monthly average discharge flow limitation of 0.15 MGD;

2. Carrying forward the monthly average and daily maximum concentration and mass limits for total suspended solids (TSS);

3. Carrying forward the daily maximum concentration limit for settleable solids;

4. Carrying forward the daily maximum concentration and mass limits for total aluminum;

5. Carrying forward the pH range limitation; and

6. Carrying forward the minimum monitoring frequency requirement for all monitored parameters, except TSS.

This permitting action is different from the 4/18/03 permitting action in that it is:

1. Eliminating the daily maximum discharge flow limit and establishing a report only requirement;

2. Eliminating the daily maximum concentration limit for total residual chlorine (TRC);

3. Revising the minimum monitoring frequency requirement for TSS from once per week to twice per month; and

4. Establishing a quarterly monitoring and reporting requirement for total aluminum for an internal waste stream (Permit Compliance System identifier #100).

b. History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the DFWD.

January 12, 2001 – The Department received authorization from the USEPA to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. From that point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System program and MEPDES permit #ME0102229 has been utilized as the primary reference number for this facility. It is noted that the Department does not have a copy of a final NPDES permit on record for this facility.

April 18, 2003 – The Department issued combination WDL #W007330-5S-B-R / MEPDES permit #ME0102229 to the DFWD for a five-year term. The 4/18/03 WDL/MEPDES permit superseded #W007330-45-A-N issued on July 23, 1997 and a subsequent administrative modification (to revise the pH range limitation to 5.5 – 8.5 SU) on March 2, 2001.

2. PERMIT SUMMARY (cont'd)

April 7, 2008 – The DFWD submitted a timely and complete General Application to the Department for renewal of the 4/18/03 MEPDES permit The application was accepted for processing on April 9, 2008, and was assigned WDL # W007330-5S-C-R / MEPDES #ME0102229.

c. Source Description: The Dover-Foxcroft Water District (DFWD) operates a drinking water treatment plant on the north shore of the Piscataquis River in Dover-Foxcroft. A map showing the location of the facility and receiving water is included as Attachment A of this fact sheet. The plant was built in 1988 and serves approximately 2,400 customers. The DFWD extracts an average of approximately 0.3 MGD of water (0.8 MGD maximum) from Salmon Stream Pond located in the Town of Guilford. The 12" water main intake pipe is located in approximately 8 feet of water during mean low water. At the time the previous MEPDES permit was issued, the DFWD operated a pre-treatment plant on Sebec Shores Road where raw water was disinfected with liquid chlorine dioxide (ClO_2). The DFWD no longer chlorinates pre-filtered water. Raw water flows to the main treatment plant via gravity flow.

At the treatment plant, water is passed through fine screens to remove any remaining solid material. Caustic soda (sodium hydroxide) is then added to adjust the pH to approximately 5.6-5.8 standard units (SU) to improve coagulant performance. An alum (aluminum sulfate) based coagulant is added to flocculate suspended solids for color removal, followed by filtration to trap flocculated particles. The four independent filtration/treatment "trains" each consist of a down-flow clarifier/flocculator and a down-flow multimedia filter.

After filtration, the water is treated with sodium hypochlorite, fluoride, ortho-phosphate, and lime for consumer and distribution system benefit. The finish water is then stored for use in one of two standpipes, an 800,000-gallon capacity standpipe located on Pine Street and a 214,000-gallon capacity standpipe located at the water treatment plant.

The filter units must be periodically cleaned through flushing/backwashing to remove accumulated particulate and maintain treatment efficiency.

d. Wastewater Treatment: The DFWD treatment process is detailed in Attachment B of this fact sheet. Flushing of the down-flow clarifiers is automatically initiated after every 10,000 gallons of water production at the plant, or approximately four (4) clarifier flushes per day. Only one bed at a time is taken off-line for cleaning. Clarifier flushes and multimedia backwash cycles utilize filtered water from the three filter beds not being cleaned. Thus, wastewater generated from flushes and backwashes does not contain chlorine. Each clarifier flush cycle generates approximately 3,360 gallons of wastewater per backwash per clarifier for a total of approximately 53,760 gallons of wastewater per day, which is conveyed to an underground 86,000-gallon settling tank prior to discharge.

Multimedia backwash cycles are initiated based on filter bed turbidity meter readings and each of the four filter beds is backwashed once per day on average. Each backwash cycle generates approximately 3,360 gallons of wastewater per backwash per clarifier for a total of approximately 13,440 gallons of wastewater per day, which is conveyed to an underground 86,000-gallon settling tank prior to discharge.

2. PERMIT SUMMARY (cont'd)

A filter rinse (also commonly referred to as filter-to-waste) cycle is initiated on each of the filter beds after the backwash and prior to placing them back into potable water production. Each filter rinse cycle generates approximately 284 gallons of wastewater per cycle per filter bed, or a total of 1,136 gallons per day based on backwashing the filters once per day (8-10 minute cycle). The filter rinse wastewater is discharged directly to the Piscataquis River via Outfall #001A rather than to the settling tank. The Department is establishing a one-year monitoring requirement for total aluminum for this waste stream in order to ensure that this discharge does not exceed the aluminum limitations established for the main outfall (Outfall #001A). The permittee shall monitor aluminum in this waste stream (an internal waste stream identifier of #100 has been assigned) for a period of one year at a minimum frequency of once per calendar quarter. The Department may reopen this permit in accordance with Special Condition G if test results indicate aluminum is present at levels that exceed the effluent limits established for Outfall #001A. It is noted that the total aluminum monitoring results on file for Outfall #001A indicate a maximum test result of 2.59 mg/L and an arithmetic mean of 0.8 mg/L (see Section 6.g of this fact sheet).

Supernatant from the 86,000-gallon settling tank is conveyed for discharge to the Piscataquis River via Outfall #001A. Outfall #001A consists of a 10-inch diameter outfall pipe that is submerged in 2 feet of water during mean low water conditions and extends 10 feet from the north shore of the Piscataquis River.

Approximately once per month, the contents of the settling tank must be pumped to one of two 81,000-gallon capacity sludge lagoons for dewatering and drying. Occasionally, the DFWD drains the supernatant from the upper portions of the settling tank through Outfall #001A prior to pumping to the sludge lagoons. During supernatant withdrawals, DFWD staff continuously monitor the dewatering process to ensure that settled materials are not discharged through Outfall #001A.

Separated water from the sludge drying process infiltrates into the ground beneath the sand and fabric-lined lagoons. The two sludge lagoons enable the DFWD to alternate lagoon use annually, allowing for volume reduction of settled materials through freeze/thaw cycles and lagoon maintenance, while providing continual lagoon treatment.

This permitting action is reinforcing the terms and conditions of a February 6, 2003 Administrative Consent Agreement and Enforcement Order in Special Condition A, Footnote #2 of the permit for visual inspection and record keeping of settling tank dewatering activities.

3. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005) require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Classification of major river basins, 38 M.R.S.A. § 467(7)(E)(1)(b) classifies Piscataquis River at the point of discharge as a Class B waterway. *Standards for classification of fresh surface waters*, 38 M.R.S.A. § 465(3) describes the standards for Class B waters.

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2006 Integrated Water Quality Monitoring and Assessment Report (2006 Integrated Report), prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists 23.29-mile reach of the Piscataquis River, main stem, above its confluence with the Sebec River (ADB Assessment Unit ID ME0102000406_219R), which includes the receiving water at the point of discharge, as, *"Category 2: Rivers and Streams Attaining Some Designated Uses – Insufficient Information for Other Uses."* It is noted that the fact sheet from the 4/18/03 permitting action identified the river segment at the DFWD's outfall as not meeting the designated aquatic life and bacteria standards for Class B waters. The 2006 Integrated Report indicates that a 13.44-mile reach of the Piscataquis River below Dover-Foxcroft has demonstrated non-attainment of the applicable dissolved oxygen criteria for Class B waters.

The 2006 Integrated Report lists all of Maine's fresh waters as, *"Category 5-C: Waters Impaired by Atmospheric Deposition of Mercury Regional or National TMDL May be Required."* Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The 2006 Integrated Report states, *"Many waters, and many fish from any given water, do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption. Maine has already instituted statewide programs for removal and reduction of mercury sources. The State of Maine is participating in the development of regional scale TMDLs for the control of mercury."*

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting action established, and this permitting action is carrying forward, a monthly average discharge flow limitation of 0.15 MGD, which is considered representative of the design flow for the facility. *Waste Discharge License Conditions*, 06-096 CMR 523(6)(b)(1) (effective January 12, 2001) states, *"In the case of [publicly owned treatment works (POTW)], permit effluent limitations, standards, or prohibitions shall be calculated based on design flow."* In accordance with 06-096 CMR 523 and for consistency with the limitations established for other POTWs, this permitting action is eliminating the numeric daily maximum discharge flow limitation of 0.25 MGD and is establishing a reporting only requirement to assist in compliance evaluations.

A summary of the discharge flow data as reported on the monthly Discharge Monitoring Reports (DMRs) for the period of February 2003 through November 2007 is as follows:

Discharge Flow	Minimum	Maximum	Arithmetic Mean	# DMRs
Monthly Average	0.04 MGD	0.14 MGD	0.1 MGD	56
Daily Maximum	0.06 MGD	0.222 MGD	0.1 MGD	56

b. Dilution Factors: Dilution factors associated with the permitted discharge flow of 0.15 MGD were derived in accordance with 06-096 CMR 530(4)(A) and were calculated as follows:

Mod. Acute: ¼ 1Q10 = 3.13 cfs $\Rightarrow \frac{(3.13 \text{ cfs})(0.6464) + 0.15 \text{ MGD}}{0.15 \text{ MGD}} = 14.5:1$

Acute: 1Q10 = 12.5 cfs $\Rightarrow \frac{(12.5 \text{ cfs})(0.6464) + 0.15 \text{ MGD}}{0.15 \text{ MGD}} = 54.9:1$

Chronic: 7Q10 = 18.7 cfs $\Rightarrow \frac{(18.7 \text{ cfs})(0.6464) + 0.15 \text{ MGD}}{0.15 \text{ MGD}} = 81.6:1$

Harmonic Mean = 56.1 cfs $\Rightarrow \frac{(56.1 \text{ cfs})(0.6464) + 0.15 \text{ MGD}}{0.15 \text{ MGD}} = 242.8:1$

It is noted that the modified acute and acute dilution factors calculated above are higher than those calculated in the previous permitting action as a result of correctly utilizing the facility's monthly average design flow (0.15 MGD) rather than the previous daily maximum discharge flow limit of 0.25 MGD.

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

06-096 CMR 530(4)(B)(1) states,

> *Analyses using numerical acute criteria for aquatic life must be based on 1/4 of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone and to ensure a zone of passage of at least 3/4 of the cross-sectional area of any stream as required by Chapter 581. 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 flow, up to and including all of it, as long as the required zone of passage is maintained.*

The DFWD has not provided information as to the actual mixing characteristics of the effluent with the receiving water. Therefore, the Department is utilizing the default stream flow of ¼ of the 1Q10 in acute evaluations.

c. Total Suspended Solids (TSS): The previous permitting action established, and this permitting action is carrying forward, monthly average and daily maximum concentration limits of 30 mg/L and 60 mg/L, respectively, based on Department best professional judgment of best practicable treatment for discharges from drinking water treatment facilities in Maine. The previous permitting action established monthly average and daily maximum mass limits of 8.8 lbs./day and 17.5 lbs./day, respectively, for TSS. The mass limits were derived using the concentration limits specified above, the previous discharge flow limit of 0.035 MGD associated with the 7/23/92 WDL, and a conversion factor of 8.34 lbs./gallon of water as follows:

Monthly Average Mass: (30 mg/L)(8.34 lbs./gallon)(0.035 MGD) = 8.8 lbs./day
Daily Maximum Mass: (60 mg/L)(8.34 lbs./gallon)(0.035 MGD) = 17.5 lbs./day

The fact sheet associated with the 4/18/03 permit stated that the basis for using the previous flow limit was to ensure that revisions to the discharge flow limit in the 4/18/03 permit (increasing the monthly average from 0.035 MGD to 0.15 MGD) would not result in additional TSS loading to the impaired segment of the Piscataquis River.

With a monthly average flow limit of 0.15 MGD, concentration limits specified above, and a conversion factor of 8.34 lbs./gallon of water, technology-based monthly average and daily maximum mass thresholds for TSS may be derived as follows:

Monthly Average Mass: (30 mg/L)(8.34 lbs./gallon)(0.15 MGD) = 37.5 lbs./day
Daily Maximum Mass: (60 mg/L)(8.34 lbs./gallon)(0.15 MGD) = 75.1 lbs./day

The technology-based mass limits calculated above based on a permitted flow of 0.15 MGD are less stringent than the previous mass limits. The Department has scheduled a total maximum daily load (TMDL) report for the 13.44-mile segment of the Piscataquis River below Dover-Foxcroft for calendar year 2009. Until such time that a TMDL report is finalized for this non-attainment segment of the Piscataquis River, the Department is limiting the discharge of TSS

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

from this facility to the previous permit limits. This action is intended to comply with the requirements of the State's antidegradation policy at *Classification of Maine waters*, 38 M.R.S.A. § 464(4)(F) in that, as permitted, existing in-stream water uses and the level of water quality necessary to protect those existing uses must be maintained and protected.

A summary of TSS data as reported on the monthly DMRs for the period of February 2003 through November 2007 is as follows:

TSS	Minimum	Maximum	Arithmetic Mean	# DMRs	4/18/03 and Proposed Permit Limits
Monthly Average	0.6 lbs./day	15.7 lbs./day	3 lbs./day	53	8.8 lbs./day
	1.7 mg/L	13.3 mg/L	4 mg/L	56	30 mg/L
Daily Maximum	0.8 lbs./day	31.5 lbs./day	6 lbs./day	53	17.5 lbs./day
	2 mg/L	26 mg/L	7 mg/L	56	60 mg/L

The monthly average and daily maximum effluent mass values were higher than the proposed and previous limits of 8.8 lbs./day and 17.5 lbs./day, respectively, on three occasions during the specified monitoring period (August, September and October 2003) indicating compliance with these limitations is achievable through proper operation and maintenance of the treatment facility.

This permitting action is revising the minimum monitoring frequency requirement of from once per week to twice per month for TSS based on Department best professional judgment in consideration of the test results on file.

d. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for discharges from drinking water treatment facilities in Maine.

A summary of settleable solids data as reported on the monthly DMRs for the period of May 2003 through November 2007 (#DMRs = 53) indicates the daily maximum settleable solids concentration discharge has been 0.1 ml/L or less 98% of the time (0.2 ml/L reported for August 2003) and in 100% compliance with the 0.3 ml/L limit during the specified monitoring period.

This permitting action is carrying forward the minimum monitoring frequency requirement once per week for settleable solids based on Department best professional judgment.

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

e. Total Residual Chlorine (TRC): The previous permitting action established a water quality-based daily maximum concentration limit of 0.17 mg/L for TRC. The limit was established based on anticipated residual chlorine in the effluent as a result of pre-treating raw water with liquid sodium dioxide. The DFWD no longer utilizes elemental chlorine or chlorine-based compounds in any processes contributing wastewater to Outfall #001A. Sodium hypochlorite is added to filtered water prior to distribution to consumers. Filter cleaning activities at the facility utilize filtered water that has not been chlorinated. Therefore, this permitting action is eliminating the daily maximum effluent limit for TRC. The action of eliminating the TRC limit will not violate the requirements of the State's antidegradation policy in that, as permitted, existing in-stream water uses and the level of water quality necessary to protect those existing uses must be maintained and protected.

A summary of effluent TRC data as reported on the monthly DMRs for the period of February 2003 through November 2007 indicates effluent TRC has ranged from 0.01 mg/L to 0.08 mg/L with an arithmetic mean of 0.04 mg/L (#DMRs = 56). It is noted that the Department's most current reporting limit (RL) for TRC is 0.05 mg/L.

f. pH: The previous permitting action established a pH range limit of 5.5 – 8.5 standard units (SU). Typically, the Department establishes a pH range of 6.0 – 9.0 SU for discharges from publicly owned treatment works, which is considered by the Department as BPT. On March 2, 2001, the Department administratively modified the 7/23/87 WDL to expand the pH range limitation to 5.5 SU "in response to the properties of a coagulant being used in the DFWD's treatment process." The 3/2/01 administrative modification stated that "*the Department has determined that the change in the license limit [from 6.0 – 8.5 SU to 5.5 – 8.5 SU] will not cause or contribute to the failure of the waterbody to attain its assigned classification and that the existing and designated uses in the receiving water will be maintained and protected.*"

A summary of effluent pH data as reported on the monthly DMRs for the period of February 2003 through November 2007 (#DMRs = 55) indicates the minimum pH value has ranged from 5.5 SU to 6.6 SU with eleven (11) values reported below 6.0 SU. The facility has been in compliance with the 5.5 – 8.5 SU pH range limitation 100% of the time during the specified monitoring period. In consideration of the site-specific conditions and prior determination that the pH range of 5.5 -8.5 SU will not violate the requirements of the State's antidegradation policy, this permitting action is carrying forward the pH range limitation.

This permitting action is carrying forward a minimum monitoring frequency requirement of once per week for pH based on Department best professional judgment.

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

g. Aluminum (Total): The previous permitting action established technology-based daily maximum concentration and mass limits of 5.0 mg/L and 6.3 lbs./day, respectively, and a minimum monitoring frequency requirement of once per calendar quarter for total aluminum. The basis for establishing aluminum limits is the presence of this metal in the final effluent resulting from the use of an aluminum sulfate coagulant for flocculation of suspended solids in the raw water. The USEPA's General Permit for drinking water treatment facilities in Maine, which was issued to several Maine facilities on or after January 9, 1995, contained a daily maximum concentration limit for aluminum of 5.0 mg/L. This limit was considered a BPT standard for drinking water treatment facility discharges in Maine and has been established in several MEPDES permits, including DFWD's, since the State received authorization to administer the NPDES permit program.

Department licensing/permitting actions impose the more stringent of either a water quality-based or BPT-based limit. 06-096 CMR 530(4)(C), states "*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions." "The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations."* The Department has no information on the background levels of metals in the water column in the Piscataquis River. Therefore, a default background concentration of 10% of applicable water quality criteria is being used in the calculations of this permitting action. 06-096 CMR 530(4)(E), states "*In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity."* Therefore, the Department is reserving 15% of applicable water quality criteria used in the calculations of this permitting action.

Thus, end-of-pipe (EOP) aluminum concentration limits may be calculated using the following formula:

EOP Concentration Limit = (Dilution Factor)[(0.75)(criterion)] + (0.25)(criterion)

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

With modified acute (¼ 1Q10) and chronic dilution factors associated with the discharge and ambient water quality criteria for aluminum, water quality-based concentration thresholds for aluminum may be calculated as follows:

Acute Daily Maximum Concentration Threshold =
(14.5)[(0.75)(0.75 mg/L)] + (0.25)(0.75 mg/L) = 8.3 mg/L

Chronic Monthly Average Concentration Threshold =
(81.6)[(0.75)(0.087 mg/L)] + (0.25)(0.087 mg/L) = 5.3 mg/L

The daily maximum BPT-based limit of 5.0 mg/L is more stringent than either calculated water quality-based threshold above and is therefore being carried forward in this permitting action.

A summary of effluent total aluminum data as reported on the monthly DMRs for the period of June 2003 through September 2003 indicates the effluent total aluminum concentration has ranged from 0.174 mg/L to 2.59 mg/L with an arithmetic mean of 0.8 mg/L. The total aluminum loading has ranged from 0.13 lbs./day to 2.61 lbs./day with an arithmetic mean of 0.6 lbs./day (#DMRs = 15).

This permitting action is carrying forward the minimum monitoring frequency requirement of once per calendar quarter based on Department best professional judgment in consideration of the test results on file.

This permitting action established a one-year monitoring and reporting requirement for clarifier rinse waste waters to characterize this waste stream (internal waste stream #100 in this permitting action). The Department will evaluate the quarterly test results and may reopen this permit in accordance with Special Condition G to require additional testing or to establish numeric limitations as necessary.

h. Phosphorous (Total): The previous permitting action established seasonal (June through September) daily maximum concentration and mass reporting requirements for total phosphorous (total-P) for calendar year 2003 only at a minimum monitoring frequency requirement of once per month. This monitoring requirement was established based on water quality concerns related to dissolved oxygen downstream from the discharge.

A summary of effluent total-P data as reported on the monthly DMRs for the period of September 2003 through September 2007 indicates the effluent total-P concentration has ranged from 0.005 mg/L to 0.025 mg/L with an arithmetic mean of 0.01 mg/L. The total-P loading has ranged from 0.005 lbs./day to 0.039 lbs./day with an arithmetic mean of 0.02 lbs./day (#DMRs = 4).

Based on a review of the effluent total-P data for this facility, the Department's Division of Environmental Assessment has not recommended establishing numeric effluent limitations or additional total-P monitoring for the DFWD. The Department has not implicated the DFWD as causing or contributing to the non-attainment of dissolved oxygen standards for the 13.44-mile reach of the Piscataquis River listed in Category 5-A of the 2006 Integrated Report.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class B classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Piscataquis Observer* newspaper on or about March 26, 2008. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses,* 06-096 CMR 522 (effective January 12, 2001).

9. DEPARTMENT CONTACTS

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

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10. RESPONSE TO COMMENTS

During the period of April 17, 2008 through May 19, 2008, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit to be issued to the Dover-Foxcroft Water District for the proposed discharge. The Department did not receive significant comments on the draft permit; therefore, a response to comments was not prepared.