

June 3, 2008

Mr. Tim Cobb
Business Manager
Downeast Correctional Facility
HCR #70 Box 428
Machiasport, ME 04655

**RE: *Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0090000
Maine Waste Discharge License (WDL) Application #W003242-5D-B-R
Minor Revision***

Dear Mr. Cobb:

Enclosed, please find a copy of your **final** MEPDES Permit / Maine WDL **minor revision** which was approved by the Department of Environmental Protection. Please read the minor revision 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.

If you have any questions regarding this 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: Annaleis Hafford, Olver Associates, Inc.
Jim Sohns, DEP
Clarissa Trasko, DEP
Lori Mitchell, DEP
Kathy Heath, DEP
Sandy Lao, USEPA
File #3242

IN THE MATTER OF

STATE OF MAINE)	MAINE POLLUTANT DISCHARGE
DOWNEAST CORRECTIONAL FACILITY)	ELIMINATION SYSTEM PERMIT
OVERBOARD DISCHARGE)	
MACHIASPORT, WASHINGTON COUNTY)	AND
#ME0090000)	WASTE DISCHARGE LICENSE
#W003242-5D-C-M APPROVAL)	MINOR REVISION

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 Department of Environmental Protection (Department) has considered the minor revision requested by the STATE OF MAINE DOWNEAST CORRECTIONAL FACILITY (DECF), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

MINOR REVISION REQUESTED

The DECF has requested that the Department issue a minor revision for Waste Discharge License (WDL) #W003242-5D-B-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0090000, which was issued on November 30, 2005. The request for minor revision of the aforementioned MEPDES Permit / WDL is to revise the effluent limitations for total residual chlorine based on revised dilution factors associated with the discharge via an extended outfall pipe.

MINOR REVISION SUMMARY

This minor revision modifies the 11/30/05 permitting action in that it is:

1. Eliminating the water quality-based monthly average effluent limitation for total residual chlorine (TRC);
2. Revising the water quality-based daily maximum effluent limitation for TRC from 0.0075 mg/L to 0.79 mg/L based on calculations of applicable dilution factors associated with the discharge; and
3. Revising the applicable period for fecal coliform bacteria limits from year-round to seasonal between May 15 – September 30 of each year.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated May 29, 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 minor revision of WDL #W003242-5D-B-R issued to the STATE OF MAINE DOWNEAST CORRECTIONAL FACILITY by the Department on November 30, 2005, for the monthly average discharge of up to 40,000 gallons per day of secondary treated sanitary wastewater from the DOWNEAST CORRECTIONAL FACILITY to the Atlantic Ocean at Howard Cove in Machias Bay, Class SB, in Machiasport, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. All other terms and conditions in the 11/30/05 WDL #W003242-5D-B-R not modified by this minor revision remain in effect and enforceable.
4. This minor revision **expires on November 30, 2010**, concurrent with the 11/30/05 WDL.

DONE AND DATED AT AUGUSTA, MAINE, THIS 2nd DAY OF JUNE, 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of the request: May 23, 2008
Date of acceptance of the request: May 23, 2008

Date filed with Board of Environmental Protection: _____.

This Order prepared by William F. Hinkel, BUREAU OF LAND & WATER QUALITY
ME009000 MR 2008 May 29, 2008

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- During the period beginning the effective date of this permit and lasting through permit expiration, the permittee is authorized to discharge **secondary treated sanitary wastewater from Outfall #001A** to the Atlantic Ocean at Howard Cove in Machias Bay. Such discharges shall be limited and monitored by the permittee as specified below⁽¹⁾:

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
	as specified	as specified	as specified	as specified	as specified	as specified	as specified	as specified
Flow <i>[50050]</i>	40,000 GPD <i>[07]</i>	--	Report GPD <i>[07]</i>	--	--	--	Continuous <i>[99/99]</i>	Metered <i>[MT]</i>
BOD₅ <i>[00310]</i>	10 lbs./day <i>[26]</i>	15 lbs./day <i>[26]</i>	17 lbs./day <i>[26]</i>	30 mg/L <i>[19]</i>	45 mg/L <i>[19]</i>	50 mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	8-Hour Composite ⁽²⁾ <i>[08]</i>
BOD₅ Percent Removal⁽³⁾ <i>[81010]</i>	---	---	---	85% <i>[23]</i>	---	---	1/Month <i>[01/30]</i>	Calculate <i>[CA]</i>
TSS <i>[00530]</i>	10 lbs./day <i>[26]</i>	15 lbs./day <i>[26]</i>	17 lbs./day <i>[26]</i>	30 mg/L <i>[19]</i>	45 mg/L <i>[19]</i>	50 mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	8-Hour Composite ⁽²⁾ <i>[08]</i>
TSS Percent Removal⁽³⁾ <i>[81011]</i>	---	---	---	85% <i>[23]</i>	---	---	1/Month <i>[01/30]</i>	Calculate <i>[CA]</i>
Settleable Solids <i>[00545]</i>	--	--	--	--	--	0.3 ml/L <i>[25]</i>	5/Week <i>[05/07]</i>	Grab <i>[GR]</i>
Fecal Coliform Bacteria⁽⁴⁾ <i>[31616]</i> May 15 – Sept 30	--	--	--	15/100 ml ⁽⁵⁾ <i>[13]</i>	--	50/100 ml <i>[13]</i>	2/Month <i>[02/30]</i>	Grab <i>[GR]</i>
Total Residual Chlorine⁽⁶⁾ <i>[50060]</i>	--	--	--	---	--	0.79 mg/L <i>[19]</i>	5/Week <i>[05/07]</i>	Grab <i>[GR]</i>
pH <i>[00400]</i>	--	--	--	--	--	6.0 – 9.0 SU <i>[12]</i>	5/Week <i>[05/07]</i>	Grab <i>[GR]</i>

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

FOOTNOTES: See Page 5 of this Minor Permit Revision for applicable footnotes. Note: Page 5 of this Minor Revision replaces Page 6 of the 11/30/05 permit.

SPECIAL CONDITIONS

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

FOOTNOTES:

1. **Influent and Effluent Monitoring** – Influent monitoring shall be conducted at the **effluent end of the influent grinder**. Effluent monitoring shall be conducted at a location following the last treatment unit in the treatment process as to be representative of end-of-pipe effluent characteristics. The Department and DECF have determined that the **effluent end of the chlorine contact chamber following the point of dechlorination** is the appropriate and representative location from which to collect effluent samples.

Any change in sampling location must be 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 Human Services.

2. **BOD₅ and TSS Sample Type** – Eight-hour composite samples for BOD₅ and TSS shall consist of four flow-proportioned grab samples collected at equally spaced intervals over an eight-hour period which are combined prior to analysis. It is noted that the permittee may, upon notification to the Department, initiate 24-hour composite sampling.
3. **Percent Removal** – The treatment facility shall maintain a minimum of 85 percent removal of both BOD₅ and TSS for all flows receiving secondary treatment. The percent removal shall be calculated based on influent and effluent concentration values. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L, and the permittee shall report “**NODI-9**” for this parameter on the monthly Discharge Monitoring Report (DMR).
4. **Bacteria Limits** – Fecal coliform bacteria limits and monitoring requirements are seasonal and apply between May 15 and September 30 of each year. The Department reserves the right to require disinfection on a year-round basis to protect the health and welfare of the public.
5. **Bacteria Reporting** – The monthly average fecal coliform bacteria limitation is a geometric mean limitation and sample results shall be reported as such.
6. **TRC Monitoring** – Effluent limitations for TRC are in effect any time the facility utilizes chlorine or chlorine-based compounds for effluent disinfection. TRC shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The USEPA approved methods are found in Standard Methods for the Examination of Water and Waste Water, (Most current edition), Method 4500-CL-E and Method 4500-CL-G or USEPA Manual of Methods of Analysis of Water and Wastes.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
MAINE WASTE DISCHARGE LICENSE**

**FACT SHEET
MINOR REVISION**

Date: **MAY 29, 2008**

PERMIT NUMBER: **#ME009000**
WASTE DISCHARGE LICENSE: **#W003242-5D-C-M**

NAME AND ADDRESS OF APPLICANT:

**STATE OF MAINE
DEPARTMENT OF CORRECTIONS
HCR #70 BOX 428
MACHIASPORT, ME 04655**

COUNTY: **WASHINGTON**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**DOWNEAST CORRECTIONAL FACILITY
STATE ROUTE 92
MACHIASPORT, ME 04655**

RECEIVING WATER / CLASSIFICATION: **ATLANTIC OCEAN AT HOWARD COVE / CLASS SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **MR. TIMOTHY COBB
BUSINESS MANAGER
(207) 255-1121**

1. MINOR REVISION REQUESTED

The State of Maine Department of Corrections has requested that the Department issue a minor revision for Waste Discharge License (WDL) #W003242-5D-B-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0090000, which was issued for the Downeast Correctional Facility (DECF) on November 30, 2005. The request for minor revision of the aforementioned MEPDES Permit / WDL is to revise the effluent limitations for total residual chlorine based on revised dilution factors associated with the discharge via an extended outfall pipe.

2. MINOR REVISION SUMMARY

This minor revision modifies the 11/30/05 permitting action in that it is:

1. Eliminating the water quality-based monthly average effluent limitation for total residual chlorine (TRC);
2. Revising the water quality-based daily maximum effluent limitation for TRC from 0.0075 mg/L to 0.79 mg/L based on calculations of applicable dilution factors associated with the discharge; and
3. Revising the applicable period for fecal coliform bacteria limits from year-round to seasonal between May 15 – September 30 of each year.

3. BASIS FOR MINOR REVISION

The Department issued a final WDL to the DECF on November 30, 2005, which included Special Condition N, *Extension of Outfall Structure Into Receiving Waters*. The 11/30/05 permit established a schedule of compliance for the DECF to provide an outfall of a design approved by the Department to eliminate the discharge of wastewater onto a sandy /rocky beach above the normal high water line.

The outfall extension project was completed to the Department's satisfaction in early 2008 and now extends out into the receiving water approximately 400 linear feet. As a result, new dilution factors associated with the discharge are applicable.

4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- a. Dilution Factors: *Surface Water Toxics Control Program*, 06-096 CMR 530(4)(A)(2)(a) (effective October 9, 2005) states that, "For discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model." Based on the configuration of Outfall #001A and a monthly average discharge flow limit of 40,000 gallons per day, dilution factors associated with the discharge of secondary treated waste waters are as follows:

Acute = 61.0:1

Chronic = 522.3:1

Harmonic mean = 1,566.9:1

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

- b. Total Residual Chlorine (TRC): With dilution factors as determined above, end-of-pipe (EOP) water quality-based concentration thresholds for TRC may be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dilution Factors	Calculated Acute Threshold	Chronic Threshold
0.013 mg/L	0.0075 mg/L	61.1:1 (A) 522.3:1 (C)	0.79 mg/L	3.9 mg/L

Example calculation: $(0.013 \text{ mg/L})(61.1) = 0.79 \text{ mg/L}$

The 11/30/05 permitting action established water quality-based monthly average and daily maximum limits of 0.013 mg/L and 0.0075 mg/L, respectively, based on the acute and chronic dilution factors of 1:1 associated with the “bank” discharge onto the beach. The Department has established a daily maximum BPT-based limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds. The calculated water quality-based acute limit of 0.79 mg/L above is more stringent than the BPT-based standard of 1.0 mg/L and is therefore being established in the minor revision. This minor revision is eliminating the monthly average limit of 0.0075 mg/L as the daily maximum limitation will ensure water quality standards will be achieved.

Effluent limitations for TRC are in effect any time the facility utilizes chlorine or chlorine-based compounds for effluent disinfection. TRC shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The USEPA approved methods are found in Standard Methods for the Examination of Water and Waste Water, (Most current edition), Method 4500-CL-E and Method 4500-CL-G or USEPA Manual of Methods of Analysis of Water and Wastes.

- c. Fecal Coliform Bacteria: The 11/30/05 permitting action established daily maximum and monthly average fecal coliform bacteria limits and specified that the limits were in effect on a year-round basis because the “at-bank” outfall structure results in the discharge of treated effluent across a beach accessible by the public poses and that that activity poses a risk to public health, safety and welfare. The risk to public health along the beach has been eliminated through extension of the outfall structure to below the low water level. *Standards for classification of estuarine and marine waters*, 38 M.R.S.A. § 465-B(2)(B) specifies bacteria standards for the period of May 15 – September 30 of each year. This minor revision is revising the applicable period for bacteria limits from year-round to seasonal between May 15 – September 30 consistent with other MEPDES permits and Maine law.

5. DEPARTMENT CONTACTS

Additional information concerning this minor revision may be obtained from, and written comments should be sent to:

William F. Hinkel
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7659 Fax: (207) 287-3435
e-mail: bill.hinkel@maine.gov