December 25, 2008

Mr. Jonathan Merchant, Chief Operator
Town of Mount Desert-Northeast Harbor
P.O. Box 248
Northeast Harbor, ME 04662

RE: Permit Compliance System Tracking Number ME0101346
Maine Waste Discharge License (WDL) Application W002659-5L-D-R
Final Permit -Town of Mount Desert, Northeast Harbor

Dear Mr. Merchant:

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 permit/license to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

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

If you have any questions regarding the matter, please feel free to call me at (207) 287-7658.

Sincerely,

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

Enclosure

cc: Clarissa Trasko, EMRO
Sandy Mojica, EPA
Lori Mitchell, DMU

IN THE MATTER OF

TOWN OF MOUNT DESERT-**NORTHEAST HARBOR**	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
MOUNT DESERT, HANCOCK COUNTY	)	AND
ME0101346	)	WASTE DISCHARGE LICENSE
W002659-5L-D-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 TOWN OF MOUNT DESERT-NORTHEAST HARBOR (Town), with its supportive data, agency review comments, and other related material on file and finds the following facts:

APPLICATION SUMMARY

The applicant has submitted a timely and complete application to the Department for renewal of Waste Discharge License (WDL) #W002659-5L-C-R/MEPDES Permit #ME0101346 ("permit) which was issued on December 23, 2003 and is due to expire on December 23, 2008. The 12/23/03 permitting action authorized the discharge of up to a monthly average flow of 0.330 million gallons per day (MGD) of secondary treated sanitary waste waters from the Town's publicly owned treatment works facility in Northeast Harbor to the Atlantic Ocean, Class SB, in Mount Desert, Maine.

PERMIT SUMMARY

This permitting action is carrying forward the terms and conditions of the previous permitting action with the following exceptions:

1. Establishment of daily maximum water quality-based mass and concentration permit limits for total copper.

2. Reduction of the acute and chronic surveillance-level testing frequencies for the mysid shrimp (*Mysidopsis bahia*) and the sea urchin (*Arbacia punctulata*).

3. Removal of the whole effluent toxicity testing requirement for the inland silverside (*Menidia berrylina*).

4. Establishment of a requirement to file an annual certification with the Department.

5. Establishment of daily maximum water quality-based mass and concentration permit limits for cyanide amenable to chlorination.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated 12/25/08 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 discharge will be subject to effluent limitations that require application of best practicable treatment as defined in Maine law, 38 MRSA Section 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the application of the TOWN OF MOUNT DESERT-NORTHEAST HARBOR to discharge up to a monthly average flow of 0.330 million gallons per day of secondary treated sanitary waste waters to the Atlantic Ocean, Class SB, subject to the attached conditions and all applicable standards and regulations including:

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

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

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

DONE AND DATED AT AUGUSTA, MAINE, THIS 29th DAY OF December, 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 December 1, 2008

Date of application acceptance December 2, 2008

Date filed with Board of Environmental Protection _____

This Order prepared by PHYLLIS A. RAND, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning upon issuance of this permit, the permittee is authorized to discharge secondary treated sanitary waste waters from **OUTFALL #001A** to the Atlantic Ocean. Such discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values bracketed in the table below and on the following pages are not limitations but code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMR's).

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	0.330 MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
Biochemical Oxygen Demand (BOD_5) *[00310]*	83 lbs/Day *[26]*	124 lbs/Day *[26]*	138 lbs/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	1/Week *[01/07]*	Composite *[24]*
BOD5 % Removal **(1)** *[81010]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids (TSS) *[00545]*	83 lbs/Day *[26]*	124 lbs/Day *[26]*	138 lbs/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	1/Week *[01/07]*	Composite *[24]*
TSS % Removal **(1)** *[81011]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	3/Week *[03/07]*	Grab *[GR]*
Fecal Coliform Bacteria**(2)** *(May 15 – Sept 30)* *[74055]*	---	---	---	15/100 ml/L *[13]*	---	50/100 ml *[13]*	1/Week *[01/07]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	--- ---	--- ---	---	0.1 mg/L *[19]* ---	--- ---	0.15 mg/L *[19]*	1/Day *[01/01]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	---	---	6.0-9.0 *[12]*	3/Week *[03/07]*	Grab *[GR]*
Total Copper *[01042]*	---	---	0.14 lbs/Day *[26]*	---	---	78 ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*

FOOTNOTES: See pages 9 through 11 of this permit for applicable footnotes. SPECIAL CONDITIONS

SPECIAL CONDITIONS

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

1. Beginning upon issuance of this permit, the permittee is authorized to discharge secondary treated sanitary waste waters from **OUTFALL #001A** to the Atlantic Ocean. Such discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values bracketed in the table below and on the following pages are not limitations but code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMR's).

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Cyanide Amenable to Chlorination *[00722]*	---	---	0.02 lbs/day *[26]*	---	---	13.5 ug/L *[28]*	2/Year *[02/YR]*	Grab *[GR]*

FOOTNOTES: See pages 9 through 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

SURVEILLANCE LEVEL TESTING

Beginning upon issuance of this permit and lasting through 12 months prior to the expiration date of this permit.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[3]						
Acute – NOEL *Mysidopsis bahia* [TDM3E] *(Mysid shrimp)*	---	---	---	Report % [23]	1/2Year [01/2YR]	Composite [24]
Chronic – NOEL *Arbacia punctulata* [TBH3A] *(Sea urchin)*	---	---	---	Report % [23]	1/2Year [01/2YR]	Composite [24]
Analytical chemistry[4] [51477]	---	---	---	Report ug/L [28]	1/2Year [01/2YR]	Composite/Grab [24]

FOOTNOTES: See pages 9 through 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

SCREENING LEVEL TESTING

Beginning 12 months prior to permit expiration and lasting through permit expiration and every 5 years thereafter.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[3]						
Acute – NOEL *Mysidopsis bahia* [TDM3E] *(Mysid shrimp)*	---	---	---	Report % [23]	2/Year [02/YR]	Composite [24]
Chronic – NOEL *Arbacia punctulata* [TBH3A] *(Sea urchin)*	---	---	---	Report % [23]	2/Year [02/YR]	Composite [24]
	---	---	---	Report % [23]	2/Year [02/YR]	Composite [24]
Priority pollutants[5] [50008]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]
Analytical chemistry[4] [51477]	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/Grab [24]

FOOTNOTES: See pages 9 through 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

Footnotes:

Sampling – Sampling for all parameters shall be conducted at a location following the last treatment unit in the treatment process, including dechlorination, as to be representative of end-of-pipe effluent characteristics. Any change in sampling location must be approved by the Department in writing. Sampling and analysis must be conducted in accordance with; a) approved methods in Title 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; c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services. Samples that are sent to another POTW licensed pursuant to Waste Discharge Licenses, 38 M.R.S.A Section 413 are subject to 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 total suspended solids and biochemical oxygen demand for all flows receiving secondary treatment. The percent removal shall be based on monthly average influent and effluent concentration values. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. When this occurs, the permittee shall report a "*NODI-9*" code in the applicable space on the monthly DMR.

2. **Fecal coliform bacteria –** Limits apply on a seasonal basis (May 15 – September 30). The monthly fecal coliform average limitation is a **geometric mean** limitation and results shall be calculated and reported as such.

3. **Whole effluent toxicity (WET) testing** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic dilution of 8.6% and 1.4% 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. Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bahia*) and chronic tests shall be conducted on the sea urchin (*Arbacia punctulata*). The critical acute and chronic thresholds were derived as the mathematic inverse of the applicable acute and chronic dilution factors of 11.7:1 and 72.5:1, respectively.

SPECIAL CONDITIONS

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

a. **Screening-level testing -** Beginning twelve months prior to and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level WET testing at a frequency of 2/Year. Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bahia*). Chronic tests shall be conducted on the sea urchin (*Arbacia punctulata*).

b. **Surveillance-level testing** – Beginning upon issuance of this permit and lasting through 12 months prior to permit expiration, the permittee shall conduct surveillance-level WET testing at a frequency of once every two years (1/ 2 years). Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bahia*). Chronic tests shall be conducted on the sea urchin (*Arbacia punctulata*).

WET test results must be submitted to the Department no later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, the permittee may review the toxicity reports for up to 10 business days after receiving the test results from the laboratory conducting the testing before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 8.6% and 1.4%, 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. U.S. Environmental Protection Agency, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth edition, October 2002, EPA 821-R-02-012.

b. U.S. Environmental Protection Agency, 2002. Short-term Methods for Estimating the chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third edition, October 2002, EPA 821-R002-014.

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 A of this permit each time a WET test is performed.

4. **Analytical Chemistry -** Refers to a suite of chemical tests that include 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.

a. **Screening-level testing** – Beginning 12 months prior to 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.

b. **Surveillance-level testing** – Beginning upon permit issuance and lasting through 12 months prior to permit expiration, the permittee shall conduct analytical chemistry surveillance level testing at a frequency of one every two years (1/ 2 years).

SPECIAL CONDITIONS

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

5. **Priority Pollutant Testing –** Priority pollutant testing refers to analysis for levels of priority pollutants listed in Department rule 06-096 CMR Chapter 525 Section 4 (VI).

   a. **Screening level testing** – Beginning 12 months prior to and lasting through permit expiration and every five years thereafter**,** the permittee shall conduct priority pollutant testing at a minimum frequency of one per year. It is noted that Chapter 530 does not require routine surveillance-level testing for priority pollutants in the first four years of the term of this permit.

Analytical chemistry and priority pollutant testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable, and shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve the most current minimum reporting levels of detection as specified by the Department. See **Attachment A** of this permit for a list of the Department's most current reporting levels (RL's) of detection.

Analytical chemistry and priority pollutant 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 my review the toxicity reports for up to 10 business days after receiving the test results from the laboratory 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 Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9," monitoring not required this period.

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 analyses 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 B** of this permit for the Department's form for reporting mercury test results.

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.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS (cont'd)

4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. DISINFECTION

If chlorination is used as a means of disinfection, an approved chlorine contact structure 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 total residual chlorine 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,"* above.

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade II** Maine Waste Water Treatment Plant Operator's Certificate or a Maine Professional Engineer's License 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 waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

F. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge permit; 2) the terms and conditions of this permit; and 3) only from Outfall #001. Discharges of waste water from any other point source(s) are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5)(*Bypass)* of this permit.

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 waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

SPECIAL CONDITIONS

G. NOTIFICATION REQUIREMENT (cont'd)

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:

   (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and

   (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall maintain a Wet Weather Flow Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. The facility's Wet Weather Flow Management Plan was last revised in 2007.

Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility, the permittee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan which conforms to Department guidelines for such plans. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events. **The permittee shall review their plan annually** and record any necessary changes to keep the plan up to date.

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. The O&M Plan shall be kept on-site at all times and made available to Department and EPA personnel upon request.

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.

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.

SPECIAL CONDITIONS

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

On or before December 31 of each calendar 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;

3. Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge; and

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

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

K. MONITORING AND REPORTING

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

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

SPECIAL CONDITIONS

L. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at 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.

M. SEVERABILITY

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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **December 25, 2008**

PERMIT NUMBER: **ME0101346**

LICENSE NUMBER: **W002659-5L-D-R**

NAME AND ADDRESS OF APPLICANT:

TOWN OF MOUNT DESERT-NORTHEAST HARBOR
P.O. Box 248
Northeast Harbor, Maine 04662

COUNTY: **Hancock County**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

Northeast Harbor Waste Water Treatment Facility
18 Sinclair Road
Northeast Harbor, Maine 04662

RECEIVING WATER(S)/CLASSIFICATION: **Atlantic Ocean/Class SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Jonathon Merchant, Chief Operator**
(207) 276-5738 wwchiefop@mtdesert.org

1. APPLICATION SUMMARY

a. Application: The Town of Mount Desert (MTD) has submitted a complete and timely application to the Department for renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0101346/ Maine Waste Discharge License (WDL) #W002659-5L-C-R ("permit" hereinafter) which was issued by the Department on December 23, 2003 and is due to expire on December 23, 2008. The 12/23/03 permit authorized the discharge of up to a monthly average flow of 0.330 million gallons per day (MGD) of secondary treated sanitary waste waters from a publicly owned treatment works facility in Northeast Harbor to the Atlantic Ocean, Class SB, in Mount Desert, Maine.

b. Source Description: MTD operates the Northeast Harbor WWTF, which has been online since 1971, to provide secondary treatment of sanitary wastewater generated by approximately 2,700 summer and 900 winter residential and commercial customers in the Northeast Harbor Village area of Mount Desert, Maine. There are no significant industrial users within the collection system, no combined sewer overflows and the facility is not authorized to receive any septage from outside sources.

1. APPLICATION SUMMARY (cont'd)

The Northeast Harbor WWTF sewer collection system is approximately 7.25 miles in length and has five (5) pump stations. The Sea Street Pump Station is equipped with a bypass that discharges through a tidal flex valve to the inner harbor section of Northeast harbor. The bypass is exposed at mean low tide. This bypass is last known to have been active prior to a 2006 upgrade. Bypass activity is visually monitored. A wood "telltale" has been placed in the pump station end of the bypass pipe. Periodic checks are made to ensure that the telltale has not moved. MTD reported that sewer pipe materials consist primarily of PVC, vitrified clay, and asbestos cement with ductile and cast iron comprising only a small percentage of the total.

A map of the Mount Desert area showing the general location of the Northeast Harbor WWTF and outfall location is included as Fact Sheet **Attachment A**.

c. Waste Water Treatment: The facility was upgraded in 1998 to accommodate increased flows from the original facility design. Upgrades, including new influent pumps, a new final clarifier and a new chlorine contact tank, were designed for an average daily flow of 0.330 MGD, a maximum sustained daily flow of 0.650 MGD and a peak hourly flow of 1.30 MGD.

Raw wastewater is conveyed to the facility via a 24-inch ductile iron gravity sewer. The influent is treated with sodium hydroxide (caustic soda) for pH adjustment and is then conveyed through a manual bar rack and/or mechanical grinder (comminutor) for influent screening before continuing to a wet well consisting of two 800-gallon basins. From there, the flow is pumped to one of two available 166,000-gallon aeration basins for extended diffused aeration. Only one aeration basin is online at any given time so that the other can be used for high flow management and/or aerobic treatment of sludge during winter months. Wastewater is then conveyed to a 45-foot diameter circular secondary clarifier with a volume of approximately 162,000 gallons, and then to a 13,500-gallon baffled chlorine contact chamber for seasonal disinfection using sodium hypochlorite and dechlorination using sodium bisulfite. The contact chamber provides approximately 15 minutes of detention at the peak flow rate. Effluent flow is measured by a V-notch weir installed in the chlorine contact tank.

Treated effluent is conveyed to the Atlantic Ocean for discharge via a 16-inch diameter outfall pipe that extends 540 feet beyond the low tide mark at a depth of approximately 5.6 feet during mean low tide. The end of the pipe is fitted with a diffuser consisting of seven 2-inch ports and one 6-inch outlet port to enhance mixing of the effluent with the receiving waters.

Sludge handling equipment at the facility includes a 1,100-gallon scum tank, a 43,500-gallon aerobic digester and two 15-horsepower return sludge pumps. Scum from the secondary clarifier is skimmed to the scum tank and subsequently pumped to the aerobic digester for settling and decanting of supernatant back to the aeration tank. Sludge is hauled to the Bar Harbor WWTF for dewatering and then to the Soil Prep in Plymouth, Maine, for final disposal. A schematic of the wastewater treatment process is included as Fact Sheet **Attachment B**.

2. PERMIT SUMMARY

a. Terms and Conditions: This permitting action is carrying forward the terms and conditions of the previous permitting action with the following exceptions:

1. Establishment of daily maximum permit limits for total copper.

2. Reduction of the acute and chronic surveillance-level testing frequencies for the mysid shrimp (*Mysidopsis bahia*) and the sea urchin (*Arbacia punctulata*).

3 Removal of the whole effluent toxicity testing requirement for the inland silverside (*Menidia berrylina*).

4. Establishment of a requirement to file an annual certification with the Department.

5. Establishment of daily maximum permit limits for cyanide amenable to chlorination.

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

August 22, 1991 – The USEPA issued NPDES permit #ME0101346 superseding previous NPDES permits issued for this facility on 3/28/85 and on 5/2/74. This permitting action administratively consolidated the discharges from MTD's Northeast Harbor facility and three other POTWs located in and operated by MTD (Somesville previously #ME0101362, Seal Harbor previously #ME0101354, and Otter Creek previously #ME0101338). Previously, the Northeast Harbor WWTF was permitted to discharge 0.330 MGD of secondary treated sanitary wastewater to the Atlantic Ocean. This permitting action, however, did not include numerical discharge flow limitations for any of the facilities; reporting of the monthly average and daily maximum discharge flow values was required.

August 12, 1997 – The Department issued WDL #W002659-59-B-R to MTD for the continued discharge of 0.330 MGD of treated sanitary wastewater from the Northeast Harbor WWTF to the Atlantic Ocean. This permitting action superseded WDL #W002659-45-A-R issued on 4/17/85, WDL #2659 issued on 2/28/79, and WDL #441 issued on 3/25/74 and expired on August 12, 2002.

August 27, 1997 – The USEPA issued NPDES permit #ME0101346 for the four facilities covered in the 8/22/91 NPDES permit #ME0101346: Northeast Harbor Treatment Facility (Outfall 001-A); Somesville Sewage Treatment Plant (Outfall 002-A); Seal Harbor Sewage Treatment Plant also known as Seal Harbor I (Outfall 003-A); Otter Creek Sewage Treatment Plant (Outfall 004-A); and, for the first time, the Seal Harbor II WWTF also known as the Seal Harbor Village Sewage Treatment Plant (Outfall 005-A), a 3,600 GPD sand filter overboard discharge system with no previous NPDES permit number. This permit did not include numerical discharge flow limitations for any of the facilities, and it expired on March 3, 2002. Subsequent permits issued by the Department separated the outfalls by issuing individual MEDPES permits: Northeast Harbor-ME0101346; Somesville-ME0102547; Seal Harbor I-ME0102555. The Otter Creek facility was consolidated with the Seal Harbor I facility as a result of a 2003 consent agreement. The Seal Harbor II facility flows are conveyed to the Seal Harbor I facility following a determination in 2003 by the Town that the facility's flows were discharging into a small stream instead of into the Atlantic Ocean. The Seal Harbor II permit was retired in December 2004.

2. PERMIT SUMMARY (cont'd)

May 25, 2000 – The Department administratively modified WDL #W002659-5L-C-R by establishing interim average and maximum concentration limits for the discharge of mercury.

November 6, 2003 – The Department's Bureau of Land and Water Quality, Division of Engineering, Compliance and Technical Assistance offered the MTD an Administrative Consent Agreement and Enforcement Order for violations of numeric discharge limitations that have occurred at the Northeast Harbor WWTF. The Administrative Consent Agreement and Enforcement Order was posted for a 30-day public hearing on December 4, 2003, and presented to the Board of Environmental Protection on January 15, 2004 for final approval.

December 13, 2003 – The Department issued MTD renewal permit WDL #W002659-5L-C-R/ MEPDES #ME0101346 for the Northeast Harbor facility.

April 10, 2006 – The Department issued a permit modification for Whole Effluent Toxicity testing requirements under the Surface Water Toxics Control Program.

December 2, 2008 – The Town of Mount Desert, Northeast Harbor, filed a timely and complete application with the Department to renew their MEPDES permit.

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., §469(2) classifies the receiving waters at the point of discharge as a Class SB waterway. Maine law, 38 M.R.S.A., §465-B(2) describes the standards for classification of Class SB waterway.

5. EXISTING WATER QUALITY CONDITIONS

The *2008 Integrated Water Quality Report* published by the Department pursuant to Section 305(b) of the Federal Water Pollution Control Act lists the Atlantic Ocean at the point of discharge as "*Category 2: Estuarine And Marine Waters Attaining Some Designated Uses-Insufficient Information for Other Uses.*" Attainment in this context is in regard to the designated use of harvesting of shellfish. Currently, Maine Department of Marine Resources shellfish harvesting area #C44 is closed to the harvesting of shellfish due to insufficient (limited) ambient water quality data to meet the standards in the National Shellfish

5. EXISTING WATER QUALITY CONDITIONS (cont'd)

Sanitation Program. Therefore, the area remains closed. Compliance with the fecal coliform bacteria limits in this permitting action ensures that the discharge from the Northeast Harbor WWTF will not cause or contribute to the shellfish harvesting closure. The shellfish closure area is identified on the map included as Fact Sheet **Attachment C**.

Table Category 5-D of the *Estuarine and Marine Waters Impaired by Legacy Pollutants* in the *2008 Integrated Water Quality Report* lists all estuarine and marine waters as partially supporting fishing (shellfish consumption) due to elevated levels of PCBs and other persistent, bioaccumulating substances in lobster tomalley. The Department is not aware of any information that indicates the Town of Mount Desert-Northeast Harbor facility is discharging persistent or bioaccumulating substances that cause or contribute to the non-attainment.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting action established a monthly average discharge flow limitation of 0.330 MGD and a reporting requirement for the daily maximum discharge flow values, which are both being carried forward in this permitting action. The facility was upgraded in 1998 to accommodate a maximum sustained daily flow of 0.650 MGD and a peak hourly flow of 1.30 MGD, although MTD has not requested an increase in the discharge flow limit.

A review of the DMR data for the period May 2004 – May 2008 indicates the following:

Flow (n = 39)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	0.330	0.019 – 0.510	0.245
Daily Maximum	Report	0.039-1.298	0.522

b. Dilution Factors: Department regulation Chapter 530 Section (D)(3)(b), *Surface Water Toxics Control Program*, 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 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 or CORMIX.*"

With a permitted flow of 0.330 MGD and based on the location and configuration of the outfall structure, the Department has established dilution factors as follow:

Acute = 11.7:1 Chronic = 72.5:1 Harmonic Mean[(1)] = 217.5:1

Footnote:

1. The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the U.S. EPA publication, "*Technical Support Document for Water Quality-Based*

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

Toxics Control" (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

c. Biochemical Oxygen Demand (BOD_5) & Total Suspended Solids (TSS): The previous permitting action established monthly average and weekly average BOD_5 & TSS concentration limits of

30 mg/L and 45 mg/L, respectively that were based on secondary treatment requirements of Department rule Chapter 525(3)(III). The previous permitting action also established minimum BOD_5 and TSS removals of 85% which are being carried forward in this permitting action.

This permitting action is carrying forward a minimum monitoring frequency of once per week for BOD_5 & TSS based on Department guidance for facilities with a monthly average flow between 0.1 and 0.5 MGD.

A review of the DMR data for the period May 2004 – May 2008 indicates the monthly average and daily maximum mass and concentration values have been reported as follows:

BOD Mass (n = 40)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	83	3 – 30	10
Daily Maximum	138	5 – 68	21

BOD Concentration (n = 40)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	2.3 – 8.0	4.5
Daily Maximum	50	3.0 – 14.0	6.3

TSS mass (n = 39)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	83	6 – 74	19
Daily Maximum	138	5 – 233	40

TSS concentration (n = 39)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	3.8 – 12.0	7.9
Daily Maximum	50	5 – 23	12

d. Settleable Solids – The previous permitting action established a daily maximum concentration limit of 0.3 ml/L for settleable solids. That limit is being carried forward in this permitting action and is considered by the Department as BPT for secondary treated waste waters.

A review of the DMR data for the period May 2004 – May 2008 indicates the daily maximum settleable solids concentration values reported have ranged from 0.0 mL/L – 0.1 mL/L (n = 38) with

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

an arithmetic mean of 0.1 mL/L. For calculation purposes, results reported as "less than" were calculated at their detection limits.

e. Fecal coliform bacteria – This permitting action is carrying forward the monthly average and daily maximum limits for fecal coliform bacteria of 15 colonies/100 mL and 50 colonies/100 mL, respectively, which are consistent with the National Shellfish Sanitation Program. This permitting action is carrying forward the minimum monitoring frequency of once per week based on Department guidance.

A review of the monthly DMR data for the period May 2004 – May 2008 indicates the monthly average (arithmetic) and daily maximum values have been reported as follows:

Fecal coliform bacteria (n = 15)

Value	**Limit (col/100 ml)**	**Range (col/100 ml)**	**Mean (col/100 ml)**
Monthly Average	15	0 – 5	2
Daily Maximum	50	0 – 21	7

f. Total Residual Chlorine - Limits on total residual chlorine are specified to ensure attainment of the in-stream water quality criteria for chlorine and that BPT technology is utilized to abate the discharge of chlorine. Permits issued by this Department impose the more stringent of the calculated water quality-based or BPT-based limits. End-of-pipe water quality-based thresholds for TRC were calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	13 ug/L	7.5 ug/L	11.7:1	72.5:1	0.15 mg/L	0.54 mg/L

Example calculation: Acute (0.013 mg/L)(11.7) = 0.15 mg/L

The Department has established a daily maximum best practicable treatment (BPT) limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds unless the calculated acute water quality-based threshold is lower than 1.0 mg/L. For facilities that need to dechlorinate the discharge in order to comply with water quality-based thresholds, the Department has established daily maximum and monthly average best practicable treatment (BPT) limits of 0.3 mg/L and 0.1 mg/L, respectively.

This facility needs to dechlorinate the discharge in order to comply with the calculated water quality thresholds. Therefore, this permitting action is carrying forward the more stringent acute water quality-based limit of 0.15 mg/L as a daily maximum limitation and the more stringent BPT-based monthly average limitation of 0.1 mg/L. This permitting action is carrying forward the minimum monitoring frequency of once per day based on Department guidance. TRC limitations are seasonal and apply between May 15 and September 30 of each year.

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

A review of the DMR data for the period May 2004 – May 2008 indicates the daily maximum and monthly average TRC values have been reported as follows:

Total residual chlorine (n = 16)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	0.15	0.04 – 0.5	0.10
Monthly Average	0.1	0 – 0.04	0.02

g. pH – This permitting action is carrying forward a pH range limit of 6.0 – 9.0 standard units considered by the Department as BPT for secondary treated wastewater pursuant to Department rule Chapter 525(3)(III). This permitting action is carrying forward a minimum monitoring frequency of three times per week based on a Department BPJ of level of monitoring necessary to determine compliance and for consistency with other monitoring requirements. A review of the DMR data for the period May 2004 – May 2008 indicates the pH range limitation has never been exceeded.

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

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

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

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

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

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

Based on the Chapter 530 criteria, the permittee's facility falls into the Level II frequency category as the facility has a chronic dilution factor of 72.5:1. Chapter 530(2)(D)(1) specifies that default surveillance and screening level testing requirements are as follows:

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	2 per year	1 per year	4 per year

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	1 per year	None required	2 per year

See **Attachment D** of this Fact Sheet for a summary of the WET test results and **Attachment E** of this Fact Sheet for a summary of the chemical-specific test dates.

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

Chapter 530 Section (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, DC) 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."*

<u>WET Test Evaluation</u>

Chapter 530 Section 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 May 28, 2008, and again on December 23, 2008, the Department conducted statistical evaluations on the most recent 60 months of WET test results on file with the Department in accordance with the statistical approach in Chapter 530. It is noted the inland silverside is no longer listed as a test species in Chapter 530 and any test results within the 60-month evaluation period for said species are not considered in statistical evaluations in this permitting action. The statistical evaluations indicate

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

the discharge from the permittee's waste water treatment facility does not have the reasonable potential to exceed the acute or chronic water quality thresholds.

Based on the results of the statistical evaluations, the permittee qualifies for the Chapter 530(2)(D)(3)(d) testing reduction for the sea urchin and mysid shrimp. Therefore, this permit action establishes a reduced surveillance level testing of 1 every 2 years for the mysid shrimp and sea urchin.

Beginning upon issuance of this permit and lasting through 12 months prior to permit expiration, surveillance level WET testing is a follows:

Level	WET Testing
II	1 /2 years for the mysid shrimp 1/ 2 years for the sea urchin

Chapter 530 §(2)(D) states:

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

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

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

Department rule Chapter 530 (2)(D)(1) specifies that screening level testing is to be established as follows:

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

Level	WET Testing
II	2 per year for the mysid shrimp 2 per year for the sea urchin

<u>Analytical Chemistry and priority pollutant testing evaluation</u>

As with WET test results, on 5/28/08, the Department conducted a statistical evaluation on the most recent 60 months of analytical chemistry and priority pollutant test results on file with the Department in accordance with the statistical approach outlined in Chapter 530. The statistical

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

evaluation indicates the discharge from the permittee's facility had two test results, 0.046 mg/L (02/29/04) and 0.029 mg/L (12/09/07) that exceeded the acute AWQC for copper. On 12/04/08, the Department received new information showing the discharge from the permittee's facility on 7/14/08 had one test result of 8.00 ug/L that indicated a possible exceedence or reasonable potential to exceed the acute and/or chronic water quality criteria for cyanide.

It is noted test results submitted to the Department to-date for cyanide are expressed as total cyanide rather than cyanide amenable to chlorination, making it impossible to determine an actual exceedence or reasonable potential to exceed AWQC for the pollutant. As a result, the Department is not requiring the permittee to conduct a TRE for cyanide until at least four test results (equivalent to screening-level testing) for cyanide amenable to chlorination are submitted to the Department and statistically evaluated.

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

Chapter 530 §(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."*

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 no information on the background levels of metals in the water column of the Atlantic Ocean. 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.

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

Pursuant to Chapter 530 §(3)(D) & (E), the Department is establishing water quality-based mass and concentration limits for total copper and cyanide amenable to chlorination as follows:

Total Copper:

Acute AWQC = 5.78 ug/L

Acute dilution factor: 11.7:1

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

EOP = [11.7 x 0.75 x 5.78 ug/L] + [0.25 x 5.78 ug/L] = 52.2 ug/L

Based on a permitted flow of 0.330 MGD, EOP mass limits are as follow:

Parameter	Calculated Concentrations	Monthly Avg Mass Limit
Total Copper	52.2 ug/L	0.14 LBS/day

Calculation: $\frac{(52.2 ug/L)(8.34 mg/L)(0.330 MGD)}{1000 ug/mg} = 0.14$ LBS/day

Cyanide Amenable to Chlorination:

Acute and chronic AWQC = 1.0 ug/L
Acute dilution factor = 11.7:1

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

EOP = [11.7 x 0.75 x 1.0 ug/L] + [0.25 x 1.0 ug/L] = 9.0 ug/L

Parameter	Calculated EOP Concentrations	Daily Max. Mass Limit
Cyanide	9.0 ug/L	0.02 lbs/day

Calculation: $\frac{(9.0 ug/L)(8.34)(0.330 MGD)}{1,000 ug/mg} = 0.02$ lbs/day

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

Department rule 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."* Based on said provisions, the Department is making a best professional judgment that the water quality-based concentration thresholds for the parameters listed above be increased by a factor of 1.5 so as not to penalize the permittee for operating at flows less than the permitted flow. Therefore, the concentration limits are being established as follows:

Parameter	Calculated EOP Concentration	Monthly Average	Daily Maximum
Total Copper	52.2 ug/L	---	78.3 ug/L
Cyanide	9.0 ug/L	---	13.5 ug/L

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 total copper and cyanide amenable to chlorination based on a best professional judgment given the timing, frequency and severity of the exceedence or reasonable potential to exceed AWQC. To be consistent with the Department's 4/10/06 permit modification, the Department is carrying forward a monitoring frequency of 2/Year for total copper and cyanide amenable to chlorination.

A summary of the water quality-based mass and concentration limits for total copper and cyanide amenable to chlorination established in this permit are as follows:

Parameter	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Total Copper	---	0.14 lbs/day	---	78.3 ug/L
Cyanide	---	0.02 lbs/day	---	13.5 ug/L

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 than, or detected below the Department's specified detection limits, those results will be considered as not being present for the purposes of determining exceedences of water quality criteria."

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

As for the remaining parameters, 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)(c) states in part that Level II facilities "… *may reduce surveillance testing to one WET or specific chemical series every other year 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 5/28/08 statistical evaluation, the permittee qualifies for the testing reduction.

Therefore, this permitting action establishes surveillance-level priority pollutant and analytical testing (**with the exception of total copper and cyanide amenable to chlorination**) requirements as follows:

Beginning upon permit issuance and lasting through 12 months prior to permit expiration, surveillance-level testing requirements are as follows:

Level	Priority pollutant testing	Analytical chemistry
II	Not required	1 / 2 years

Department rule Chapter 530 (2)(D)(1) specifies that screening-level testing is to be established for analytical chemistry and priority pollutant testing requirements as follows:

Beginning 12 months prior to and lasting through permit expiration and every five years thereafter, screening level testing is as follows:

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

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

i. Mercury - May 25, 2000 – Pursuant to *Certain deposits and discharges prohibited,* 38 M.R.S.A. § 420 and *Waste Discharge Licenses*, 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001), the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL #W002659-5L-C-R by establishing interim monthly average and daily maximum effluent concentration limits of 9.1 parts per trillion (ppt) and 13.7 ppt, respectively, and a minimum monitoring frequency requirement of two (2) tests per year for mercury. It is noted the limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements,* of this permit as limitations and monitoring frequencies are regulated

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

separately through 38 M.R.S.A.§ 413 and 06-096 CMR 519. However, the interim limitations remain in effect and enforceable and any modifications to the limits and/or monitoring requirements will be formalized outside of this permitting document.

Maine law 38 M.R.S.A., §420 1-B,(B)(1) states that a facility is not in violation of the ambient water quality criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413, subsection 11. A review of the Department's database for the previous 60 months indicates mercury test results have ranged from 0.001 ppt to 9.00 ppt with an arithmetic mean (n=14) of 1.02 ppt.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has made a determination based on a best professional judgment that 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 SB classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Bar Harbor Times* on or about 12/04/08. 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.

9. DEPARTMENT CONTACTS

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

Phyllis A. Rand
Maine Department of Environmental Protection
Bureau of Land and Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333-0017 Telephone (207) 287-7658
e-mail: Phyllis.A.Rand@maine.gov

10. RESPONSE TO COMMENTS

During the period November 24, 2008 through December 24, 2008, the Department solicited comments on the proposed draft. No comments were received from the permittee, the general public or other regulatory agencies during the comment period. Comments were received internally from Department staff:

Comment #1: Since the pH is adjusted, more monitoring may be appropriate.

10. RESPONSE TO COMMENTS (cont'd)

Response to Comment #1: The data reported on the permittee's Discharge Monitoring Reports over the past five years shows the facility was in 100% compliance with the pH limitations. Given the facility's pH compliance history, this permitting action is carrying forward the three times per week minimum monitoring frequency for pH based on Department BPJ from the previous permitting action.

Comment #2: The measurement frequencies for settleable solids, total residual chlorine and pH are typically the same.

Response to Comment #2: The previous permitting action established minimum monitoring frequencies of three times per week, rather than daily, for settleable solids and pH based on a Department BPJ of the level of monitoring necessary to demonstrate compliance and for consistency with other monitoring requirements. A review of DMR data over the past five years showed the permittee was in 100% compliance for pH and settleable solids. This permitting action is carrying forward the three times per week monitoring frequency for pH and settleable solids.

Unlike pH and settleable solids, the permittee experienced total residual chlorine violations over the past five years. Therefore, the daily monitoring frequency based on Department guidance, and established in the previous permitting action, is being carried forward in this permitting action.

It is noted for all parameters that Special Condition L, "Reopening of Permit for Modifications," states that this permit may be modified upon evaluation of the test results or monitoring requirements specified in the Special Conditions of this permitting action.