

November 4, 2008

Mr. James Secunde, Environmental Manager
Maine Energy Recovery Company, LP
P.O. Box 401
Biddeford, ME 04005

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0023141
Maine Waste Discharge License (WDL) Application #W006163-5R-G-R
Final Permit/License – Maine Energy Recovery Company, LP

Dear Mr. Secunde:

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: Stuart Rose, DEP/SMRO
David Webster, USEPA

IN THE MATTER OF

MAINE ENERGY RECOVERY COMPANY,LP) MAINE POLLUTANT DISCHARGE
BIDDEFORD, YORK COUNTY, MAINE) ELIMINATION SYSTEM PERMIT
NON-CONTACT COOLING WATER) AND
ME0023141) WASTE DISCHARGE LICENSE
W006163-5R-G-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 MAINE ENERGY RECOVERY COMPANY (MERC), with its supportive data, agency review comments, and other related material on file and finds the following facts:

APPLICATION SUMMARY

The MERC has applied to the Department for renewal of MEPDES Permit #ME0023141/ Waste Discharge License (WDL) # W006163-5R-F-R (“permit” hereinafter) which was issued on October 11, 2003 and is due to expire on October 11, 2008. The MERC electric generating station in Biddeford is owned by Casella Waste Systems Inc., and is operated by KTI Operations, Inc. The MERC has applied for renewal of the 10/11/03 permit that authorized the discharge of up to a daily maximum of 93.6 million gallons per day (MGD) of non-contact cooling water and storm water runoff to the Saco River which is classified as a Class B waterway.

PERMIT SUMMARY

This permitting action is carrying forward all terms and conditions of the 10/11/03 permit.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated 11/04/08 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 MRS Section 464(4)(F), will be met, in that:
 - a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
 - b. Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
 - c. The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and
 - e. Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharges will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the application of the Maine Energy Recovery Company to discharge up to a daily maximum flow of 93.6 million gallons per day (MGD) of non-contact cooling water and storm water runoff to the Saco River, 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.
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 6th DAY OF November 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 9/19/08.

Date of application acceptance 9/22/08.

Date filed with Board of Environmental Protection _____

This Order prepared by PHYLLIS A. RAND, BUREAU OF LAND AND WATER QUALITY
ME0023141 2008 11/04/08

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- Beginning upon issuance of this permit, the permittee is authorized to discharge **Non-Contact Cooling Water** from **OUTFALL #001** to the Saco River. Such treated waste water discharges shall be limited and monitored by the permittee as specified below:

MAY 1 – NOVEMBER 30

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Measurement <u>Frequency</u> as specified	Sample <u>Type</u> as specified
Flow <small>[50050]</small>	---	93.6 MGD _[03]	---	---	Continuous <small>[99/99]</small>	Calculate ⁽¹⁾ <small>[CA]</small>
Temperature Differential ($\Delta T^{\circ}F$) <small>[61576]</small>	---	---	---	5°F ⁽²⁾ <small>[15]</small>	1/Day <small>[01/01]</small>	Calculate <small>[CA]</small>
pH _[00400]	---	---	---	6.0 –8.5 SU	---	---

DECEMBER 1 – APRIL 30

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Measurement <u>Frequency</u> as specified	Sample <u>Type</u> as specified
Flow <small>[50050]</small>	---	93.6 MGD _[03]	---	---	Continuous <small>[99/99]</small>	Calculate ⁽¹⁾ <small>[CA]</small>
Thermal Load <small>[00017]</small>	---	---	---	4.02 x 10 ⁹ BTU's/Day <small>[15]</small>	1/Day <small>[01/01]</small>	Calculate <small>[CA]</small>
pH _[00400]	---	---	---	6.0 –8.5 SU	---	---

Footnotes:

- Calculation based on pump run time per month and the appropriate pump curve.
- Differential between intake temperature and effluent temperature.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. Beginning upon issuance of this permit, the permittee is authorized to discharge **Storm Water Runoff and minor quantities of Potable Water** from **OUTFALL #002** to the Saco River. Such discharges shall be limited and monitored by the permittee as specified below:

OUTFALL #002 – Storm Water Runoff

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Measurement <u>Frequency</u> as specified	Sample <u>Type</u> as specified
Flow <small>[50050]</small>	---	Report gpm _[78]	---	---	1/Month <small>[01/30]</small>	Estimate _[ES]
Oil & Grease _[00552]	---	---	---	15 mg/L <small>[19]</small>	1/Month <small>[01/30]</small>	Grab ⁽¹⁾ _[GR]
Total Suspended Solids _[00400]	---	---	---	Report mg/L _[19]	1/Month _[01/30]	Grab ⁽¹⁾ _[GR]
pH _[00400]	---	---	---	6.0 –8.5 SU ⁽²⁾	1/Month _[01/30]	Grab ⁽¹⁾ _[GR]

Footnotes

- (1) Grab samples shall be taken during the first hour of a storm event.
- (2) The pH of the discharge may be less than 6.0 SUs but shall not be more than 0.5 SUs lower than the pH of the rainfall.

SPECIAL CONDITIONS

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

Sampling Locations:

Outfall #001 – In-line continuous monitoring.

Outfall #002 – Immediately after the oil/water separator.

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

Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

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.

C. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) The permittee's General Application for Waste Discharge Permit accepted for processing on 9/22/08, 2) only from Outfalls #001 and #002. 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.

SPECIAL CONDITIONS

D. NOTIFICATION REQUIREMENT

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

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and
2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:
 - (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and
 - (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

E. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

This permitting action is carrying forward the authorization for the permittee to discharge storm water runoff from **OUTFALL #002** to the Saco River.

The permittee is required to maintain and periodically update a Storm Water Pollution Prevention Plan (SWPPP). As the site or any operations conducted on it have changed or are expected to change materially or substantially, the permittee shall modify its SWPPP as necessary to include such changes and notify the Department within 90 days of such modifications to the plan. The permittee shall maintain a copy of the SWPPP and any subsequent revisions at the facility and shall make the plan available to any Department or EPA representative upon request.

The SWPPP requirements are intended to facilitate a process whereby the permittee thoroughly evaluates potential pollution sources at the facility and selects and implements appropriate measures to prevent or control the discharge of pollutants in storm water runoff. The process involves the following four steps: (1) formation of a team of qualified facility personnel who will be responsible for preparing the SWPPP and assisting the plant manager in its implementation; (2) assessment of potential storm water pollution sources; (3) selection and implementation of appropriate management practices and controls; and (4) periodic evaluation of the effectiveness of the plan to prevent storm water contamination and comply with the terms and conditions of the permit.

SPECIAL CONDITIONS

F. MIXING ZONE

The thermal component of the discharge must conform to the mixing zone criteria:

- 1) The mixing zone shall consist of all the water area bounded by the banks of the Saco River between Bradbury Dam, West Channel Dam, Cataract Dam and Springs Dam. See **Attachment A** of this permit for a site plan depicting the mixing zone boundaries.
- 2) Between May 1 and November 30 of each year, the maximum temperature differential (ΔT) between MERC's intake and effluent temperature shall not be greater than 5°F, measured as a 4-hour rolling average.
- 3) The water temperature at the boundaries of the mixing zone shall not be greater than 2°F warmer than the natural ambient river temperature, measured as a 15-minute rolling average. The ambient river temperature shall be measured above Bradbury Dam.
- 4) In no event shall the temperature of the waters within the mixing zone or estuary below Cataract Pond be caused to exceed 85°F.
- 5) Representative receiving water temperature readings shall be monitored and recorded continuously each operating day at the following locations:
 - a) Above Bradbury Dam.
 - b) At the discharge pipe outfall.
 - c) At the cooling water intake.
 - d) Above Cataract Dam.

G. MONITORING AND REPORTING

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

SPECIAL CONDITIONS

G. MONITORING AND REPORTING (cont'd)

A signed copy of the DMR and all other reports required herein shall be submitted to the Department's compliance inspector (unless otherwise specified) at the following address:

Department of Environmental Protection
Southern Maine Regional Office
Bureau of Land and Water Quality
Division of Water Quality Management
312 Canco Road
Portland, Maine 04401

H. 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 anytime and with notice to the permittee, modify this permit to; 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded, (2) require additional effluent and/or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

I. 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: **November 4, 2008**

PERMIT NUMBER: **ME0023141**
LICENSE NUMBER: **W006163-5R-G-R**

NAME AND ADDRESS OF APPLICANT:

**MAINE ENERGY RECOVERY COMPANY, LP
P.O. Box 401
Biddeford, ME 04005**

COUNTY: **York County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**3 Lincoln Street
Biddeford, Maine 04005**

RECEIVING WATER/CLASSIFICATION: **Saco River, Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. James Secunde
Environmental Manager
jimsecunde@casella.com
(207) 282-4127 Ext. 109**

1. APPLICATION SUMMARY

- a. Application – The Maine Energy Recovery Company (“MERC” hereinafter) has submitted a complete and timely application to the Department for renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0023141/Maine Waste Discharge License (WDL) # W006163-5R-F-R (“permit” hereinafter) which was issued on October 11, 2003 and is due to expire on October 11, 2008. The 10/11/03 permit authorized the discharge of up to a monthly average flow of 93.6 million gallons per day (MGD) of non-contact cooling water and storm water runoff to the Saco River which is classified as a Class B waterway.

1. APPLICATION SUMMARY (cont'd)

- b. Source Description – The MERC facility is a 22-megawatt electrical generating facility in Biddeford, Maine. The trash-to-energy facility has been operational since 1987 and processes approximately 900 tons per day of municipal solid waste (MSW) to produce refuse derived fuel (RDF) which is utilized as the fuel source for the boilers at the facility. Ferrous materials are screened out of the MSW and recycled while food waste, glass, grit another non-burnable materials are landfilled.

Waste water is discharged to the Saco River via two outfalls designated as Outfall #001 and #002. Outfall #001 discharges non-contact cooling water from various condensers, heat exchangers and vacuum pumps within the facility while Outfall #002 discharges storm water runoff from a series of onsite catch basins, from 600 gallons/week of potable water generated during a 15-minute fire equipment test and from infiltration caused by the storm water outfall pipe being located in an old stream bed. See **Attachment A** of this Fact Sheet for a water balance schematic.

- c. Waste Water Treatment – Non-contact cooling water discharged from Outfall #001 does not receive any formal treatment as the only pollutant of concern is heat. Outfall #001 returns the cooling water to the river via a diffuser consisting of a 42-inch diameter polyethylene pipe extending 80 feet into the Saco River at a depth of 1-2 feet below mean low water level at the outlet end. The diffuser has eleven 12-inch diameter ports spaced 8 feet apart and is used to enhance rapid and complete mixing of the thermal plume with the receiving waters.

Outfall #002 consists of a 36-inch diameter corrugated metal pipe that sits 1-2 feet above mean low water level at the outlet. Storm water discharged from Outfall #002 receives treatment via an oil/water separator that is equipped with an oil-skimming boom. The oil/water separator structure is designed to accommodate the flows associated with a 25 year, 24-hour storm event, and is cleaned on a quarterly basis. The permittee estimates flows of 10,000 gallon per day from Outfall #002 during storm events. This discharge is sampled on a weekly basis for TSS and pH, with the results supplied to the Department as part of the permittee's DMR. The storm water catch basins and the oil-water separator are serviced 3-4 times per year. Any recovered materials are disposed of onsite with other solid waste.

2. PERMIT SUMMARY

- a. Terms and Conditions – This permitting action is carrying forward all of the terms and conditions of the previous permitting action.
- b. History – The most current regulatory actions include the following:

December 19, 1984 - The Maine Board of Environmental Protection issued an Order establishing Cataract Pond as a thermal mixing zone.

2. PERMIT SUMMARY (cont'd)

January 16, 1986 – The EPA issued NPDES permit #ME0023141 for a five-year term.

July 6, 1989 – The York Superior Court issued an order requiring MERC to address temperature mixing zone violations.

May 24, 1990 – The Department issued Waste Discharge License renewal #W006163-51-C-R for a five-year term.

September 27, 1996 - The EPA issued a renewal of NPDES permit #ME0023141 for a five-year term.

May 12, 1997 – The Department issued Waste Discharge License renewal #W006163-51-D-R for a five-year term.

December 31, 1997 – The EPA issued a NPDES permit modification that revised the permit to be consistent with the terms and conditions of the 5/12/97 WDL.

April 24, 1998 – The Department issued a letter to MERC that administratively modified the 5/12/97 WDL by removing the monitoring requirement for pH for Outfall #001.

January 12, 2001 – The Department received authorization from the EPA to administer the NPDES program in Maine.

October 11, 2003 – The Department issued Maine Pollutant Discharge Elimination System Permit # ME0023141/Maine Waste Discharge License # W006163-5R-F-R for a five-year term.

September 22, 2008 – The Department accepted the MERC application for permit renewal.

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., §467(12)(A)(7) states that the Saco River at the point of discharge is classified as a Class B waterway. Maine law, 38 M.R.S.A., §465(3) describes the classification standards for Class B waters.

Maine law, 38 M.R.S.A., §451 states that after adoption of any classification by the Legislature for surface waters or tidal flats or sections thereof, it is unlawful for any person, firm, corporation, municipality, association, partnership, quasi-municipal body, state agency or other legal entity to dispose of any pollutants, either alone or in conjunction with another or others, in such manner as will, after reasonable opportunity for dilution, diffusion or mixture with the receiving waters or heat transfer to the atmosphere, lower the quality of those waters below the minimum requirements of such classifications, or where mixing zones have been established by the department, so lower the quality of those waters outside such zones, notwithstanding any exemptions or licenses which may have been granted or issued under sections 413 to 414-B.

Section 451 states that, after opportunity for hearing, the Department may establish by order a mixing zone with respect to any discharge for which a permit has been issued pursuant to section 414.

Section 451 states that the purpose of a mixing zone is to allow a reasonable opportunity for dilution, diffusion or mixture of pollutants with the receiving waters before the receiving waters below or surrounding a discharge will be tested for classification violations. In determining the extent of any mixing zone to be established under this section, the department may require from the applicant testimony concerning the nature and rate of the discharge; the nature and rate of existing discharges to the waterway; the size of the waterway and the rate of flow therein; any relevant seasonal, climatic, tidal and natural variations in such size, flow, nature and rate; the uses of the waterways in the vicinity of the discharge, and such other and further evidence as in the department's judgment will enable it to establish a reasonable mixing zone for such discharge. An order establishing a mixing zone may provide that the extent thereof varies in order to take into account seasonal, climatic, tidal and natural variations in the size and flow of, and the nature and rate of, discharges to the waterway.

5. RECEIVING WATER CONDITIONS

The *2008 Maine Integrated Water Quality Report* published by the Department pursuant to Section 305(b) of the Federal Water Pollution Control Act, indicates that the Class B segment of the Saco River at the point of discharge is attaining the standards of its ascribed classification.

In January of 1997, Central Maine Power Company, Swans Falls Corporation, U.S. Fish & Wildlife Service, Maine Inland Fish & Wildlife, the Maine Department of Marine Resources, the Saco River Salmon Club and the Atlantic Salmon Federation negotiated an agreement for a new flow regime for the Saco River. The agreement resulted in a guaranteed minimum flow of 400 cfs (up from 225 cfs) at the Skelton Dam from 11/16-3/30 and "Run-of-River" at the

5. RECEIVING WATER CONDITIONS

Skelton Dam from 4/1-6/30. A low flow figure of 400 cfs was utilized in calculations for the previous permitting action as well as this permitting action.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall #001

- a. Flow – The daily maximum flow limit of 93.6 MGD in the previous permitting action is being carried forward in this permitting action. It is noted that the monthly average flow limit of 69.3 MGD in the 5/24/90 WDL action was not carried forward in the 5/12/97 permitting action based on a letter of June 20, 1996 from MERC to EPA permit writer Doug Corb. The letter indicated that the limit was erroneously derived by averaging the minimum (one lift-pump operating) and the maximum (two lift-pumps operating) pump capacities at the facility. The letter also indicated that in actuality, the facility is on-line at full load (two pump operation) better than 90% of the time of the year resulting in the monthly average flow being equal to the daily maximum flow of approximately 93.6 MGD.

A review of the DMR data for the period October 2003 – June 2008 indicates the following:

Flow

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Daily Maximum	93.6	93.6 – 93.6	93.6

- b. Temperature Differential ($\Delta T^{\circ}F$) & Thermal Load – The facility is capable of operating at full generating capacity with one pump (46.8 MGD) resulting in a calculated ΔT of approximately 10 $^{\circ}F$ between intake and effluent. A two-pump mode of operation is being adhered to on a year-round basis solely to meet the temperature differential (ΔT) permit limitation of 5 $^{\circ}F$ between the cooling water intake and the effluent discharged.

In the application for the 5/12/97 permit renewal, MERC requested the Department consider deleting the ΔT limitation of 5 $^{\circ}F$ between intake and effluent. MERC based their request on the facts that: 1) the new flow regime in the Saco River (400 cfs) provided for a greater assimilative capacity in the receiving water and 2) a significant cost savings would be realized by only running one of the 500-horsepower pumps. MERC contended the ΔT of 5 $^{\circ}F$ limitation was a year-round limitation that was derived solely on theoretical operational design calculations developed prior to the facility going on-line.

During the 30-day public comment period (July-August 1996) for the NPDES draft permit, the Maine Department of Marine Resources (DMR) commented that they were concerned with MERC’s proposal for relaxation of the ΔT limit. DMR indicated that a great deal of money had been spent to date on the Saco River fish restoration project and that upstream migration (May-July) and downstream migration (June-November) of

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

American shad and river herring and spawning and/or nursery for American shad, alewife and blueback herring may be at risk during these time frames if the limitation was relaxed. DMR requested that the analysis for changing the ΔT limit should not be limited to strictly zone-of-passage considerations.

Based on DMR's comments, MERC reconsidered their position and requested relief from the ΔT of 5°F between the months of December and April only, when fish migration and spawning/nursery activities are not an issue. MERC contended that the power plant operations during this time frame would result in an equivalent overall thermal load, expressed in British Thermal Units (BTU's), being discharged to the river that was permitted by both the State WDL and federal NPDES permit during the same time frame. In addition, the thermal load was below the formal mixing zone ΔT limitation of 2°F established in the original water permitting action by this Department. The calculations are as follows:

What thermal load (expressed in BTU's/day) will change the receiving water temperature by 2°F at the edge of the mixing zone?

Minimum regulated flow = 400 cfs (258 MGD)

$$(258 \text{ MGD})(8.34)(\Delta T 2^\circ\text{F}) = 4.30 \times 10^9 \text{ BTU's/day}$$

What is the heat load associated with a ΔT of 5°F between the intake temperature and the cooling water discharged?

With two pumps running, discharge flow = 96.3 MGD

$$(96.3 \text{ MGD})(8.34)(\Delta T 5^\circ\text{F}) = 4.02 \times 10^9 \text{ BTU's/day}$$

The mixing zone ΔT limitation of 2°F in the previous permitting action is being carried forward in this permitting action and remains in effect on a year-round basis. During the months of May - November of each year, the intake-to-effluent ΔT limitation of 5°F applies to provide passage for migrating and spawning fish. During December - April, the intake-to-effluent ΔT is not applicable but a thermal load limitation equal to the thermal load discharged during the May - November period is in effect.

The DMR and the Atlantic Salmon Authority reviewed MERC's proposal and concluded during the negotiations of a previous permitting action that replacing the ΔT limitation with a thermal load of 4.02×10^9 BTU's/Day during the months of December, January, February, March and April of each year will not adversely impact fishery activities in the Cataract impoundment of the Saco River.

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

A review of the DMR data for the period October 2003 – June 2008 indicates the following (n=28):

Temperature Differential (ΔT) May 1 – November 30

Value	Limit (°F)	Range (°F)	Mean (°F)
Daily Maximum	5.0	3.6 – 4.8	4.3

A review of the DMR data for the period October 2003 – June 2008 indicates the following (n=25):

Thermal Load December 1 – April 30

Value	Limit (BTU's/Day)	Range (BTU's/Day)	Mean (BTU's/Day)
Daily Maximum	4.02×10^9	$2.33 - 3.86 \times 10^9$	3.56×10^9

- c. pH - The pH range of 6.0 - 8.5 standard units in the previous permitting action is being carried forward in this permitting action and is considered a Department best practicable treatment (BPT) limitation for the discharge.

Outfall #002

- a. Flow – This permitting action is carrying forward the daily maximum reporting requirement from the previous permitting action.

A review of the DMR data for the period October 2003 – June 2008 indicates the following (n=29):

Flow

Value	Limit (gpm)	Range (gpm)	Mean (gpm)
Daily Maximum	Report	40 – 120	86.7

- b. Oil & Grease - The daily maximum concentration limitation of 15 mg/L is being carried forward from the previous permitting action and is a Department-established BPT limitation for the discharge from a properly operated and maintained oil/water separator.

A review of the DMR data for the period October 2003 – June 2008 indicates the following (n=28):

Oil and Grease

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	15	< 1.3 – 43	7.1

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

For calculation purposes, oil and grease values reported as “less than” were considered to be present at the detection limit.

- c. Total Suspended Solids – This permitting action is carrying forward the daily maximum reporting requirement from the previous permitting action.

A review of the DMR data for the period October 2003 – June 2008 indicates the following (n=29):

Total Suspended Solids (TSS)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	Report	< 4 – 366	86

For calculation purposes, TSS values reported as “less than” were considered to be present at the detection limit.

- d. pH - The pH range of 6.0 - 8.5 standard units is being carried forward from the previous permitting action and is a Department-established BPT limitation for the discharge. The permit does allow for exceptions outside of the 6.0 - 8.5 range provided that the discharge is not lower than 0.5 standard units less than the pH of the rainfall.

A review of the DMR data for the period October 2003 – June 2008 indicates the following (n= 47):

pH

Value	Limit (SU)	Range (SU)	Mean (SU)
Daily Maximum	6.0 – 8.5	6.7 – 9.7	7.1

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 waterbody to meet standards for Class B classification.

8. PUBLIC COMMENTS

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

9. DEPARTMENT CONTACTS

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

Phyllis A. Rand
Division of Water Management
Bureau of Land and Water Quality
Maine Department of Environmental Protection
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 of October 2, 2008 through the issuance date of the permit, the Department solicited comments on the proposed draft permit to be issued for the discharge(s) from the Maine Energy Recovery LP's facility. The Department did not receive comments from the permittee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.