Mr. Patrick Cloutier
South Portland Water Pollution Control Facility
P. O. Box 9422
South Portland, Maine 04116-9422

April 13, 2004

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100633
Maine Waste Discharge License (WDL) Application #W001370-5M-F-R
Final Permit/License

Dear Mr. Cloutier:

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

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

We would like to make you aware of the fact that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. However, you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR. Please see the attached April 2003 O&M Newsletter article regarding this matter.

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality

Enc.
cc: Stuart Rose, DEP/SMRO
Ted Lavery, USEPA

IN THE MATTER OF

CITY OF SOUTH PORTLAND	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
SOUTH PORTLAND, CUMBERLAND CTY., ME.)		AND
ME0100633	)	WASTE DISCHARGE LICENSE
W001370-5M-F-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 CITY OF SOUTH PORTLAND (City), with its supportive data, agency review comments, and other related material on file and finds the following facts:

APPLICATION SUMMARY

The City has applied to the Department for renewal of Department Waste Discharge License (WDL) #W001370-5M-D-R which was issued on March 31, 1999 and is due to expire on March 31, 2004. The 3/31/99 WDL authorized the discharge of up to a monthly average flow of 9.3 million gallons per day (MGD) of secondary treated sanitary waste waters and an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from a municipal waste water treatment facility to the Fore River, Class SC, in South Portland, Maine. The 3/31/99 WDL also authorized the discharge of untreated combined sanitary and storm water from twelve (12) combined sewer overflow (CSO) outfalls to eight (8) different receiving waters that are classified as either Class C or Class SC pursuant to Maine law.

On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program and permit #ME0100633 (same as NPDES permit number) will be utilized as the primary reference number.

PERMIT SUMMARY

This permitting action is similar to the 3/31/99 WDL action in that it is;

Secondary Treated Waste Waters:

1. Carrying forward the monthly average flow limit of 9.3 MGD.

2. Carrying forward the monthly average and weekly average technology based mass and concentration limits for biochemical oxygen demand (BOD_5) and total suspended solids (TSS).

PERMIT SUMMARY (cont'd)

Secondary Treated Waste Waters:

3. Carrying forward the reporting requirement for the daily maximum mass loadings for BOD_5 and TSS.

4. Carrying forward the monthly average and daily maximum water quality based limits for fecal coliform bacteria.

5. Carrying forward the monthly average and daily maximum water quality based concentration limit for total residual chlorine.

6. Carrying forward the surveillance and screening level whole effluent toxicity (WET) and chemical specific (priority pollutant) testing.

7. Carrying forward the monthly average water quality based mass and concentration limits for ammonia.

8. Carrying forward the water quality based chronic no observed effect level (C-NOEL) for the sea urchin and the acue nobserved effect level (A-NOEL) limitations for the mysid shrimp.

Primary Treated Waste Waters:

9. Carrying forward monthly average and or daily maximum reporting requirement for mass and concentration for flow, surface overflow rates, number of discharge days per month, settleable solids and percent removal for BOD5 and TSS.

10. Carrying forward the daily maximum technology based limits for fecal coliform bacteria and total residual chlorine.

This permitting action is different than the 3/31/99 WDL action in that it is;

Secondary Treated Waste Waters:

11. Revising the disinfection season from May 10th – September 30th to May 15th – September 30th to be consistent with state law.

12. Establishing a daily maximum best practicable treatment (BPT) limit of 0.3 ml/L for settleable solids and deleting the monthly average concentration reporting requirement.

13. Revising the daily maximum BPT pH range limit from 6.0 – 8.5 standard units to 6.0 – 9.0 standard units based on a new Department regulation.

PERMIT SUMMARY (cont'd)

14. Establishing a requirement for achieving a minimum of 85% removal for BOD5 and TSS.

15. Requiring that surveillance level (1/Year) WET testing and chemical specific testing to be conducted in a different calendar quarter of each year for the first four years of the permit.

16. Establishing a water quality based daily maximum mass and concentration limits for copper and requiring the City to submit a toxicity reduction evaluation (TRE) for copper.

17. Eliminating the monitoring requirement for fluoride.

18. Requiring the permittee to maintain an up-to-date Operations and Maintenance (O&M) Plan and Wet Weather Management Plan.

Primary Treated Waste Waters:

19. Revising the disinfection season from May 10th – September 30th to May 15th – September 30th.

20. Revising the pH range limitation from 6.0 –8.5 standard units to 6.0 – 9.0 standard units.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated March 12, 2004, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

Secondary and Primary Treated Waste Waters:

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

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

3. The provisions of the State's antidegradation policy, 38 MRSA Section 464(4)(F), will be met, in that:

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

    b. Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

    c. The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

    d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

    e. Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharges [including the 8 combined sewer overflows (CSOs)] will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the application of the CITY OF SOUTH PORTLAND, to discharge up to a monthly average flow of 9.3 million gallons per day (MGD) of secondary treated sanitary waste waters and an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from a municipal waste water treatment facility and untreated combined sanitary and storm water from eight (8) combined sewer overflow (CSO) outfalls to six different Class C and Class SC receiving waters in South Portland. The discharges shall be subject to the attached conditions and all applicable standards and regulations:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits,*" revised July 2, 2001, 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 ___ DAY OF _____, 2004.

COMMISSIONER OF ENVIRONMENTAL PROTECTION

BY:_____
Dawn Gallagher, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application December 24 , 2004.

Date of application acceptance January 7, 2004.

Date filed with Board of Environmental Protection _____

This Order prepared by GREGG WOOD, BUREAU OF LAND & WATER QUALITY

W13705mf 4/12/04

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to discharge secondary treated waste waters to the Fore River. Such treated waste water discharges shall be limited and monitored by the permittee as specified below.

SECONDARY TREATED WASTE WATERS - OUTFALL #001A

Effluent Characteristic	**Discharge Limitations**						**Minimum Monitoring Requirements**	
	Monthly Average as specified	**Weekly Average** as specified	**Daily Maximum** as specified	**Monthly Average** as specified	**Weekly Average** as specified	**Daily Maximum** as specified	**Measurement Frequency** as specified	**Sample Type** as specified
Flow *[50050]*	---	---	---	9.3 MGD *[03]*	---	---	Continuous *[99/99]*	Recorder *[RC]*
Biochemical Oxygen Demand (BOD_5) *[00310]*	2,327 lbs/Day *[26]*	3,490 lbs/Day *[26]*	Report lbs/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	24 Hr. Composite *[24]*
BOD_5 % Removal (1) *[81010]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids (TSS *[00530]*	2,327 lbs/Day *[26]*	3,490 lbs/Day *[26]*	Report lbs/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	24 Hr. Composite *[24]*
TSS % Removal (1) *[81011]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	1/Day *[01/01]*	Grab *[GR]*
Fecal Coliform Bacteria (2) *(May 15 – September 30)* *[31616]*	---	---	---	15/100 ml (3) *[13]*	---	50/100 ml *[13]*	5/Week *[05/07]*	Grab *[GR]*
Total Residual Chlorine (2) *[50060]*	---	---	---	0.075 mg/L *[19]*	---	0.078 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	---	---	6.0-9.0 *[12]*	1/Day *[01/01]*	Grab *[GR]*

Effluent Characteristic	***Discharge Limitations***						***Minimum Monitoring Requirements***	
	Monthly Average *as specified*	***Weekly Average*** *as specified*	***Daily Maximum*** *as specified*	***Monthly Average*** *as specified*	***Weekly Average*** *as specified*	***Daily Maximum*** *as specified*	***Measurement Frequency*** *as specified*	***Sample Type*** *as specified*
Ammonia as N[00610] *(June 1 – October 30)*	776 lbs/Day *[26]*	---	---	15,000 ug/L ***[28]***	---	---	1/Year *[01/YR]*	24 Hr. Composite *[24]*
Copper *[01042]*	---	---	1.3 lbs/Day *[26]*	---	---	26 ug/L *[28]*	1/Month *[01/30]*	24 Hr. Composite *[24]*
Zinc *[01092]*	---	---	44 lbs/Day *[26]*		---	856 ug/L *[28]*	1/Year *[01/YR]*	24 Hr. Composite *[24]*

SPECIAL CONDITIONS

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

SECONDARY TREATED WASTE WATERS - OUTFALL #001A

SURVEILLANCE LEVEL TESTING – Beginning upon issuance and lasting through twelve months prior to permit expiration.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(4)						
Acute – NOEL						
Mysidopsis bahia [TDM3E] *(Mysid Shrimp)*	---	---	---	16.7 % [23]	1/Year [01/YR]	Composite [24]
Menidia beryllina [TDM6B] *(Inland Silverside)*	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Chronic – NOEL						
Menidia beryllina [TBP6B] *(Inland Silverside)*	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Arbacia punctulata [TBH3A] *(Sea urchin)*	---	---	---	10.0 % [23]	1/Year [01/YR]	Composite [24]
Chemical Specific (5) [50008]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]

SPECIAL CONDITIONS

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

***SCREENING LEVEL* - Beginning twelve months prior to permit expiration.**

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(4)						
Acute – NOEL						
Mysidopsis bahia [TDM3E] *(Mysid Shrimp)*	---	---	---	16.7 % *[23]*	1/Quarter *[01/90]*	Composite *[24]*
Menidia beryllina [TDM6B] *(Inland Silverside)*	---	---	---	Report % *[23]*	1/Quarter *[01/90]*	Composite *[24]*
Chronic – NOEL						
Menidia beryllina [TBP6B] *(Inland Silverside)*	---	---	---	Report % *[23]*	1/Quarter *[01/90]*	Composite *[24]*
Arbacia punctulata [TBH3A] *(Sea urchin)*	---	---	---	10.0 % *[23]*	1/Quarter *[01/90]*	Composite *[24]*
Chemical Specific (5) *[50008]*	---	---	---	Report ug/L *[28]*	1/Quarter *[01/90]*	Composite/Grab *[24]*

SPECIAL CONDITIONS

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

2. During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to bypass secondary treatment. Such discharges may only occur in response to wet weather events when the influent to the waste water treatment facility exceeds a peak hourly flow rate of 15,900 gallons per minute (22.9 MGD) or in accordance with the most current approved Wet Weather Flow Management Plan and shall be monitored and reported as specified below.

PRIMARY TREATED WASTE WATERS - OUTFALL #001D (Internal Waste Stream)

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow, MGD *[50050]*	Report (Total MGD) *[03]*	Report (MGD) *[03]*	---	---	Continuous *[99/99]*	Recorder *[RC]*
Surface Loading Rate(6) *[50997]*	---	Report (gpd/sf) *[07]*	---	---	1/Discharge Day(7) *[01/DS]*	Calculate *[CA]*
Overflow Use, Occurrences(8) *[74062]*	---	---	Report (# of days) *[93]*	---	1/Discharge Day(7) *[01/DS*	Record Total *[RT]*
BOD5 *[00310]*	---	---	---	Report mg/L *[19]*	1/Discharge Day(7) *[01/DS]*	Composite
BOD5 % Removal(9) *[81010]*	---	---	Report (%) *[23]*	---	1/Discharge Day(7) *[01/DS]*	Calculate *[24]*
TSS *[00530]*	---	---	---	Report mg/L *[19]*	1/Discharge Day(7) *[01/DS]*	Composite
TSS % Removal(9) *[81011]*	---	---	Report (%) *[23]*	---	1/Discharge Day(7) *[01/DS]*	Calculate *[24]*
Fecal Coliform Bacteria(2) *[31616]*	---	---	---	200/100 ml *[13]*	1/Discharge Day(7) *[01/DS]*	Grab(10) *[GR]*
Total Residual Chlorine *[50060]*	---	---	---	0.1 mg/L *[19]*	1/Discharge Day(7) *[01/DS]*	Grab(10) *[GR]*

SPECIAL CONDITIONS

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

Footnotes:

Sampling Locations:

Influent sampling for BOD_5 and TSS for waste waters receiving primary treatment shall be sampled at the overflow splitter box downstream of the CSO influent flume.

Influent sampling for BOD_5 and TSS for waste waters receiving secondary treatment shall be sampled after the influent parshall flume but before the mechanical bar screen for the treatment facility.

Effluent receiving secondary treatment (Outfall #001A)- Samples for all parameters shall be collected after the de-chlorination chamber on a year-round basis.

Effluent receiving primary treatment (Outfall #001D) shall be sampled for BOD_5 and TSS prior to combining with the secondary treated effluent.

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

Sampling –Sampling and analysis must be conducted in accordance with; a) methods approved in 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.

1. **Percent removal** - The treatment facility shall maintain a minimum of 85 percent removal of both BOD_5 and TSS. The percent removal shall be based on a monthly average calculation using influent and effluent concentrations. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility shall report "*NODI-9"* on the monthly Discharge Monitoring Repo

2. **Fecal coliform bacteria** - Limits are seasonal and apply between May 15 and September 30 of each calendar year. The Department reserves the right to require disinfection on a year-round basis to protect the health and welfare of the public.

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

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

Footnotes:

4. **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 16.7 % and 10.0 % 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.

   Beginning upon issuance of the permit and lasting through twelve months prior to the expiration date of the permit, the permittee shall conduct surveillance level WET testing at a frequency shall conduct a WET test in a different calendar quarter each year such that a test is conducted in each of four years of the term of the permit. Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bah (Menidia beryllina).* Chronic tests shall be conducted on the inland silverside *(Menidia berrylina)* and on (*Arbacia punctulata*). Results shall be reported to the Department within 30 days of the permittee receivi laboratory conducting the testing.

   Beginning twelve months prior to the expiration date of the permit, the permittee shall conduct scree level WET testing at a frequency of 1/Quarter (four consecutive calendar quarters). Acute tests shall be c (*Mysidopsis bahia*) and the inland silverside *(Menidia berrylina).* Chronic tests shall be conducted on the *(Menidia berrylina)* and on the sea urchin (*Arbacia punctulata*). Results shall be reported to the Departm 30 days of the permittee receiving the test results from the laboratory conducting the testing.

   The permittee is also required to analyze the effluent for the parameters specified in the analytic chemistry on the form in Attachment A of this permit every time a WET test is performed.

   Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

   a. Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Marin Organisms, Fifth Edition,
      October 2002, EPA-821-R-02-014.

   b. Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Third Edition, October 2002,
      EPA-821-R-02-012.

SPECIAL CONDITIONS

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

Footnotes:

5. **Priority pollutant** - (chemical specific testing pursuant to Department rule Chapter 530.5) testing are those parameters listed by the USEPA pursuant to Section 307(a) of the Clean Water Act and published a 40 CFR Part 122, Appendix D,

Tables II and III.

Beginning upon issuance of this permit and lasting through twelve months prior to the expiration date of the permit, surveillance level chemical specific testing shall be conducted at a frequency of 1/Year. **Beginning twelve months prior to the expiration date of the permit**, screening level chemical specific testing shall be conducted at a frequency of 1/Quarter (four consecutive calendar quarters). Chemical specific testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, where applicable. Chemical specific testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. Results shall be submitted to the Department within thirty (30) days of the permittee receiving the data report from the laboratory conducting the testing**. For the purposes of DMR reporting, enter a "NODI-9" for *no testing done this monitoring period* or "1" for *yes, testing done this monitoring period*.**

All mercury sampling shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

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

7. **Discharge Day** - A discharge day is defined as a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

SPECIAL CONDITIONS

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

Footnotes:

8. **Overflow occurrence** – An overflow occurrence is defined as the period of time between initiation of flow from the primary bypass and cessation of the discharge from the primary bypass. Overflow occurrences are reported in discharge days.

   Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified. One composite sample for BOD5 and total suspended solids shall be collected per discharge day and shall be of flow proportioned from each intermittent overflow during that 24-hour period. Only one grab sample for fecal coliform bacteria and total residual chlorine is required to be collected per discharge day.

   For overflow occurrences exceeding one day in duration, sampling shall be performed each day of the event according to the measurement frequency specified. For example, if an overflow occurs for all or part of three discharge days, the permittee shall take three composite samples for BOD and TSS, initiating samples at the start of the overflow and each subsequent discharge day thereafter and terminating samples at the end of the discharge day or the end of the overflow occurrence. Samples shall be flow proportioned.

9. **BOD_5 and TSS Removal** - The permittee shall analyze both the influent and effluent of the primary clarifiers for BOD and TSS during the discharge of treated excess combined sewer waste waters from Outfall 001D and report the percent (%) removal on the monthly Discharge Monitoring Report (DMR). As an attachment to the DMR, the permittee shall report the individual BOD and TSS test results used to calculate the percent removal rates reported.

10. **Grab Sample** – Grab samples for fecal coliform bacteria and total residual chlorine are not required to be collected when Outfall #001D is active for a single continuous discharge event lasting less than 60 minutes or during intermittent discharge events over a course of a 24-hour period lasting less than 120 minutes.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

2. 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.

3. 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.

4. 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.

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

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a **Grade V** certificate pursuant to Title 32 M.R.S.A., Section 4171 et seq. 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. 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. A signed copy of the DMR and all other reports required herein shall be submitted to the following addresses:

Department of Environmental Protection
Southern Maine Regional Office
Bureau of Land and Water Quality
Division of Compliance, Engineering & Technical Assistance
312 Canco Road
Portland, Maine 04103

Additional monthly reporting requires submitting (in electronic version preferably) a *"DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifiers* or *DEP-49-CSO Form For Use With Non-Dedicated CSO Primary Clarifiers"* to:

CSO Coordinator
Department of Environmental Protection
Bureau of Land & Water Quality
Division of Engineering, Compliance
& Technical Assistance
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@state.me.us

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

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. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge to surface waterbodies in accordance with the terms and conditions of this permit and only from Outfall 001A and eight (8) combined sewer overflow outfalls listed in Special Condition L, *Combined Sewer Overflows*, of this permit. Discharges of waste water from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B(5) (Bypass) of this permit.

I. WET WEATHER FLOW MANAGEMENT PLAN

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

The plan shall include operating procedures for a range of intensities, address solids handling procedures (inc
high strength wastes if applicable) and provide written operating and maintenance procedures during the ever

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

SPECIAL CONDITIONS

J. OPERATION & MAINTENANCE (O&M) PLAN

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

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

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

K. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to **receive** up to a maximum of **20,000 gallons per day** and **introduce** into the solids handling or the treatment plant process up to a maximum of **10,000 gallons per day** of septage, subject to the following terms and conditions:

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

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

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

4. The addition of septage into the treatment process or solids handling stream shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of septage into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.

SPECIAL CONDITIONS

K. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

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

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

7. During wet weather flows, no septage shall be added to any other part of the treatment process or solids handling facilities.

L. COMBINED SEWER OVERFLOWS (CSO's)

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

1. CSO locations

Outfall No./Name	Outfall Location	Receiving Water and Class
004 Long Creek	Long Creek Pump Station	Long Creek, Class SC
005 Cash Corner	Main Street/Cash Corner	Calvery Pond, Class C
006 Broadway/Evans	Evans & Broadway	Barberry Ck/Fore R.,Class C/SC
018 Front Street	Front Street Pump Station	Portland Harbor, Class SC
019 West High Street	W. High Street Pump Sta.	Portland Harbor, Class SC
021 Main Street	Main Street Pump Station	Fore River, Class SC
024 Elm Street	Turners Island	Fore River, Class SC
028 Clifford Street	Norman Street	Trout Brook, Class C

2. Prohibited Discharges

   a) The discharge of dry weather flows is prohibited. All such discharges shall be reported to the Department in accordance with Standard Condition D (1) of this permit.

   b) No discharge shall occur as a result of mechanical failure, improper design or inadequate operation or maintenance.

SPECIAL CONDITIONS

L. COMBINED SEWER OVERFLOWS (CSO's)

   c) No discharges shall occur at flow rates below the maximum design capacities of the wastewater treatment facility, pumping stations or sewerage system.

3. Narrative Effluent Limitations

a) The effluent shall not contain a visible oil sheen, settled substances, foam, or floating solids at any time that impair the characteristics and designated uses ascribed to the classification of the receiving waters.

b) The effluent shall not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life; or which would impair the usage designated by the classification of the receiving waters.

c) The discharge shall not impart color, turbidity, toxicity, radioactivity or other properties that cause the receiving waters to be unsuitable for the designated uses and other characteristics ascribed to their class.

4. CSO Master Plan (see Sections 2 & 3 of Chapter 570 Department Rules)

The permittee shall implement CSO control projects in accordance with an approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled *South Portland, Maine, Combined Sewer Overflow Facilities Plan,* dated October 1, 1993 was original approved by the Department on September 29, 1994.

Key milestones approved in most recent abatement schedule that the permittee is required to comply with are:

By July 1, 2005, ***(PCS Code 04599*****)** the permittee shall complete the installation of a generator at the Main Street Pump Station and eliminate the associated CSO #021.

By November 30, 2006 ***(PCS Code 06699)****,* the permittee shall submit an updated CSO Master Plan and abatement schedule for review and approval by the Department. All abatement work approved by the Department shall be completed pursuant to the implementation schedule in the Master Plan.

To modify the dates and or projects specified above (but not dates in the Master Plan), the permittee must file an application with the Department to formally modify this permit. The work items identified in the abatement schedule may be amended from time to time based upon approval by the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

SPECIAL CONDITIONS

L. COMBINED SEWER OVERFLOWS (CSO's)

5. Nine Minimum Controls (NMC) (see Section 5 Chapter 570 of Department Rules)

   The permittee shall implement and follow the Nine Minimum Control documentation as approved by EPA on May 29, 1997. Work preformed on the Nine Minimum Controls during the year shall be included in the annual CSO Progress Report (see below).

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

   The permittee shall conduct block testing or flow monitoring according to an approved *Compliance Monitoring Program* on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations shall be determined by actual flow monitoring, or by estimation using a model such as EPA's Storm Water Management Model (SWMM).

   Results shall be submitted annually as part of the annual *CSO Progress Report* (see below), and shall include annual precipitation, CSO volumes (actual or estimated) and any block test data required. Any abnormalities during CSO monitoring shall also be reported. The results shall be reported on the Department form *"CSO Activity and Volumes"* (Attachment B of this permit) or similar format and submitted to the Department on diskette.

   CSO control projects that have been completed shall be monitored for volume and frequency of overflow to determine the effectiveness of the project toward CSO abatement. This requirement shall not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

7. Additions of New Wastewater (see Section 8 Chapter 570 of Department Rules)

   Chapter 570 Section 8 lists requirements relating to any proposed addition of wastewater to the combined sewer system. Documentation of the new wastewater additions to the system and associated mitigating measures shall be included in the annual *CSO Progress Report* (see below). Reports must contain the volumes and characteristics of the wastewater added or authorized for addition and descriptions of the sewer system improvements and estimated effectiveness.

SPECIAL CONDITIONS

L. COMBINED SEWER OVERFLOWS (CSO's)

8. Annual CSO Progress Reports (see Section 7 of Chapter 570 of Department Rules)

By March 1 ***(PCS Code 33101)***, of each year the permittee shall submit *CSO Progress Reports* covering the previous calendar year (January 1 to December 31). The CSO Progress Report shall include, but is not necessarily limited to, the following topics as further described in Chapter 570: CSO abatement projects, schedule comparison, progress on inflow sources, costs, flow monitoring results, CSO activity and volumes, nine minimum controls update, sewer extensions, and new commercial or industrial flows.

The CSO Progress Reports shall be completed on a standard form *entitled "Annual CSO Progress Report"*, furnished by the Department, and submitted in electronic form, if possible, to the following address:

CSO Coordinator
Department of Environmental Protection
Bureau of Land and Water Quality
Division of Engineering, Compliance
and Technical Assistance
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@state.me.us

9. Signs

If not already installed, the permittee shall install and maintain an identification sign at each CSO location as notification to the public that intermittent discharges of untreated sanitary wastewater occur. The sign must be located at or near the outfall and be easily readable by the public. The sign shall be a minimum of 12" x 18" in size with white lettering against a green background and shall contain the following information:

CITY OF SOUTH PORTLAND
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME

SPECIAL CONDITIONS

L. COMBINED SEWER OVERFLOWS (CSO's)

10. Definitions

For the purposes of this permitting action, the following terms are defined as follows:

a. Combined Sewer Overflow - a discharge of excess waste water from a municipal or quasi-municipal sewerage system that conveys both sanitary wastes and storm water in a single pipe system and that is in direct response to a storm event or snowmelt.

b. Dry Weather Flows - flow in a sewerage system that occurs as a result of non-storm events or are caused solely by ground water infiltration.

c. Wet Weather Flows - flow in a sewerage system that occurs as a direct result of a storm event, or snowmelt in combination with dry weather flows.

M. TOXICITY REDUCTION EVALUATION (TRE)

Within ninety (90) days of the effective date of this permit ***(PCS Code 01399)***, the permittee shall submit to the Department for review and approval, a TRE plan which outlines a strategy to identify the source(s) and action items to be implemented to mitigate or eliminate exceedences of ambient water quality criteria for copper.

N. 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 or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

SPECIAL CONDITIONS

O. INDUSTRIAL PRETREATMENT PROGRAM

1. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass-through the publicly owned treatment works (POTW) or interfere with the operation or performance of the works.

    a. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW facilities or operation, are necessary to ensure continued compliance with the POTW's MEPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

2. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, found at 40 CFR 403 and Department rule Chapter 528. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

    a. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

    b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

    c. Obtain appropriate remedies for noncompliance by an industrial user with any pretreatment standard and/or requirement.

    d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

    e. The permittee shall provide the Department with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with federal regulation found at 40 CFR 403.12(i) and Department rule Chapter 528(12)(I). The **annual report** shall be consistent with the format described in Attachment D of this permit **and shall be submitted no later than September 1st of each calendar year.** ***(PCS Code 6101L)***

SPECIAL CONDITIONS

O. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

f. The permittee must obtain approval from the Department prior to making any significant changes to the industrial pretreatment program in accordance with federal regulation found at 40 CFR 403.18(c) and Department rule Chapter 528(18).

g. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the federal regulations found at 40 CFR 405 et. seq.

h. The permittee must modify its pretreatment program to conform to all changes in the federal regulations and State rules that pertain to the implementation and enforcement of the industrial pretreatment program. **Within 180 days of the effective date of this permit**, ***(PCS Code 50999)***, the permittee must provide the Department in writing, proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current federal regulations and State rules. At a minimum, the permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending the Department's approval under federal regulation 40 CFR 403.18 and Department rule Chapter 528(18). This submission is separate and distinct from any local limits analysis submission described in section 1(a) above.

ATTACHMENT C

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

Pursuant to federal regulation 40 CFR §122.21(j)(4) and Department rule Chapter 528, all Publicly Owned Treatment Works (POTWs) with approved Industrial Pretreatment Programs (IPPs) shall provide the Department with a written evaluation of the need to revise local industrial discharge limits under federal regulation 40 CFR §403.5(c)(1) and Department rule Chapter 528(6).

Below is a form designed by the U.S. Environmental Protection Agency (EPA - New England) to assist POTWs with approved IPPs in evaluating whether their existing Technically Based Local Limits (TBLLs) need to be recalculated. The form allows the permittee and Department to evaluate and compare pertinent information used in previous TBLLs calculations against present conditions at the POTW.

Please read the directions below before filling out the attached form.

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your previous NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/reissued MEPDES permit.

  The 7Q10 value is the lowest seven day average flow rate, in the river, over a ten year period. The 7Q10 value and/or dilution ratio used by the Department in your MEPDES permit can be found in your MEPDES permit "Fact Sheet."

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

* List what your existing TBLLs are - as they appear in your current Sewer Use Ordinance (SUO).

ITEM III.

* Identify how your existing TBLLs are allocated out to your industrial community. Some pollutants may be allocated differently than others, if so please explain.

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current MEPDES permit limitations - include toxicity.

ITEM V.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in pounds per day) received in the POTW's influent. Current sampling data is defined as data obtained over the last 24 month period.

  All influent data collected and analyzed must be in accordance with federal regulation 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

* Based on your existing TBLLs, as presented in Item II., list in Column (2) each Maximum Allowable Industrial Headworks Loading (MAIHL) value corresponding to each of the local limits derived from an applicable environmental criteria or standard, e.g. water quality, sludge, MEPDES, inhibition, etc. For each pollutant, the MAIHL equals the calculated Maximum Allowable Headwork Loading (MAHL) minus the POTW's domestic loading source(s). For more information, please see p.,3-28 in EPA's *Guidance Manual on the Development and Implementation of Local Limits Under the Pretreatment Program, 12/87*.

ITEM VI.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in micrograms per liter) present your POTW's effluent. Current sampling data is defined as data obtained during the last 24 month period.

  All effluent data collected and analyzed must be in accordance with federal regulation 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

* List in Column (2A) what the Water Quality Standards (WQS) were (in micrograms per liter) when your TBLLs were calculated, please note what hardness value was used at that time. Hardness should be expressed in milligram per liter of Calcium Carbonate.

  List in Column (2B) the current WQSs or "Chronic Gold Book" values for each pollutant multiplied by the dilution ratio used in your new/reissued MEPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 20 mg/l - Calcium Carbonate (copper's chronic WQS equals 2.99 ug/l) the chronic MEPDES permit limit for copper would equal 75 ug/l.

ITEM VII.

* In Column (1), list all pollutants (in micrograms per liter) limited in your new/reissued MEPDES permit. In Column (2), list all pollutants limited in your old/expired NPDES permit.

ITEM VIII.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants in your POTW's biosolids. Current data is defined as data obtained during the last 24 month period. Results are to be expressed as total dry weight.

  All biosolids data collected and analyzed must be in accordance with federal 40 CFR §136.

  In Column (2A), list current State and/or Federal sludge standards that your facility's biosolids must comply with. Also note how your POTW currently manages the disposal of its biosolids. If your POTW is planing on managing its biosolids differently, list in Column (2B) what your new biosolids criteria will be and method of disposal.

In general, please be sure the units reported are correct and all pertinent information is included in your evaluation. If you have any questions, please contact your pretreatment representative at the Maine Department of Environmental Protection, Bureau of Land & Water Quality, Division of Engineering, Compliance & Technical Assistance, State House Station #17, Augusta, ME. 04333. The telephone number is (207) 287-3901.

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS
(TBLLs)

POTW Name & Address : _____

MEPDES Permit #_____

Date the Department approved current TBLLs : _____

Date the Department approved current Sewer Use Ordinance : _____

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1)	**Column (2)**
	EXISTING TBLLs	PRESENT CONDITIONS
POTW Flow (MGD)	_____	_____
SIU Flow (MGD)	_____	_____
Dilution Ratio or 7Q10 from the MEPDES Permit	_____	_____
Safety Factor	_____	N/A
Biosolids Disposal Method(s)	_____	_____

ITEM II.

EXISTING TBLLs

POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)	POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ITEM III.

Note how your existing TBLLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

ITEM IV.

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLLs were calculated?

If yes, explain. _____

_____

Has your POTW violated any of its MEPDES permit limits and/or toxicity test requirements?

If yes, explain. _____

_____

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Industrial Headwork Loading (MAIHL) values used to derive your TBLLs

listed in Item II. In addition, please note the environmental criteria for which each MAIHL value was established, i.e. water quality, sludge, MEPDES etc.

Pollutant	**Column (1)** Influent Data Analyses Maximum (lb/day)	Average (lb/day)	**Column (2)** MAIHL Values (lb/day)	Criteria
Arsenic	_____	_____	_____	_____
Cadmium	_____	_____	_____	_____
Chromium	_____	_____	_____	_____
Copper	_____	_____	_____	_____
Cyanide	_____	_____	_____	_____
Lead	_____	_____	_____	_____
Mercury	_____	_____	_____	_____
Nickel	_____	_____	_____	_____
Silver	_____	_____	_____	_____
Zinc	_____	_____	_____	_____
Other (List)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Water Quality Standards (Gold Book Criteria) were at the time your existing TBLLs were

developed. List in Column (2B) current Gold Book values multiplied by the dilution ratio used in your new/reissued MEPDES permit.

	Column (1) Effluent Data Analyses		**Columns (2A)** Water Quality Criteria (Gold Book)	**(2B)**
	Maximum	Average	From TBLLs	Today
Pollutant	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Arsenic	_____	_____	_____	_____
Cadmium*	_____	_____	_____	_____
Chromium*	_____	_____	_____	_____
Copper*	_____	_____	_____	_____
Cyanide	_____	_____	_____	_____
Lead*	_____	_____	_____	_____
Mercury	_____	_____	_____	_____
Nickel*	_____	_____	_____	_____
Silver	_____	_____	_____	_____
Zinc*	_____	_____	_____	_____
Other (List)	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

*Hardness Dependent (mg/l - CaCO3)

ITEM VII.

In Column (1), identify all pollutants limited in your new/reissued MEPDES permit. In Column (2), identify all pollutants that were limited in your old/expired NPDES permit.

Column (1) NEW PERMIT		Column (2) OLD PERMIT	
Pollutants	Limitations (ug/l)	Pollutants	Limitations (ug/l)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that was used at the time your existing TBLLs were calculated. If your POTW is planing on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

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

ATTACHMENT D

MEPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

1. A narrative description (paragraph) of program effectiveness including the following:

- present and proposed changes to the program
- Funding
- Staffing
- Ordinances
- Regulations
- Statutory authority
- Other

Our pretreatment program is very effective as indicated by the SIU compliance rate and the reduction in pollutant loading to the POTW.

The program is adequately funded and staffed to provide for annual training and completion of our regulatory responsibilities.

No changes have been made, or are proposed, to the City of South Portland's Sewer Use Ordinance. The SUO provides adequate statutory authority to enforce in Local, State and Federal courts.

2. The date of the latest adoption of Local Limits and a statement as to whether the municipality is under a State or Federal compliance schedule that includes steps to be taken to revise Local Limits.

If yes, Compliance Schedule; if no, schedule not needed.

_____'s Local Limits were last adopted (by local authority) on _____ and _____ is under no State or Federal compliance schedule that includes steps to be taken to revise Local Limits.

3. A description of actions taken to reduce the incidence of violations by SIU's;

Example: Inspections – Notifications – Information/Education

4. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect Interference and Pass Through, specifying parameters and frequencies;

Example: Evaluations/investigations as a result of Monitoring, Sewer Inspections, and Evaluations, Influent – Effluent results, Spills, Dumps, Toxicity, or Unusual events.

5. A detailed description of all Interference and Pass Through that occurred during the past year; [statement of:

Event, Parameter, Violation, Cause, IU, POTW action, IU action, Result (see NOV #)].

_____ experienced no events of Interference or Pass- Through in this reporting period. If "Yes" then describe.

6. A thorough description of all investigations into Interference and Pass-Through during the past year;

A paragraph: Violation, Problem, Steps to resolve, Result.

(same as #5 or describe investigations.)

7. An updated list of all industrial users by category (40 CFR 403.8(f)(2)(i), indicating compliance or non- compliance with the following:

- baseline monitoring reporting requirements for newly promulgated industries
- compliance status reporting requirements for newly promulgated industries
- periodic (semi-annual) monitoring reporting requirements - categorical standards, and
- local limits

Example:

SIU	New Promulgated BMR/Compliance (Y/N) (Y/N)	Cat Limits Compliance (Y/N)	Local Limits Compliance (Y/N)	Semi-annual Reports Compliance (Y/N)

8. A summary of compliance and enforcement activities during the preceding year including a:

- list of SIU's inspected by the POTW (dates, compliance status),
- list of SIU's sampled by the POTW (dates, compliance status),

Example:

SIU Inspected Sampled/self Sampled/POTW Compliance Y/N

- list of SIU's to which compliance schedules were issued,
  [SIU] - Violation - Compliance - Schedule
  N/A or schedule plus Progress Reporting Dates]

- summary list of NOV's written to SIU's by name [statement],
- summary list of AO's written to SIU's by name [statement],
- list of criminal and/or civil suits filed by SIU,[usually a simple statement]
- list of penalty amounts obtained (by SIU) [a statement].

9. NOTE: Some items in numbers 9 & 10 may be combined in a chart, or charts. Be sure that any charts are logical, not cluttered, and don't contain an unreasonable amount of information. Any violations should be shown separately, in summary, for each item.

List of violating industries required to be published in a local newspaper (40 CFR 403.8(f)(2)(vii). [Statement]

10. A summary of all pollutant analytical results for:

- Influent [Annual average – show violations]
- Effluent [Annual average – show violations]
- Sludge [Annual average– show violations]
- Toxicity/Bioassay [Annual Average – show violations]

- comparison of influent sampling results versus threshold inhibitory concentrations for the POTW's wastewater treatment system.

- comparison of effluent sampling results versus water quality standards, considering the permitted dilution factor of the POTW.

NOTE: The sampling program shall be as described below OR any similar sampling program described in the MEPDES permit.

- At a minimum, annual sampling and analysis of/ the influent and effluent of the POTW's wastewater treatment plant shall be conducted on the following pollutants:

Example:

	Influent	Inhibition Effluent	AWC
			Acute Chronic
- Total Cadmium			
- Total Chromium			
- Total Copper			
- Total Lead			
- Total Mercury (Methods 1669 & 1631)			
- Total Nickel			
- Total Silver			
- Total Zinc			
- Total Cyanide			
- Total Arsenic			

The sampling program shall consist of one 24-hour flow-proportioned composite that is representative of the flow received by the POTW. The composite shall consist of accurately flow-proportioned grab samples taken over a discharge day if the samples are collected manually, or shall consist of a minimum of 48 accurately flow-proportioned samples if an automatic sampler is used. Sampling and preservation shall be according to 40 CFR part 136.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **March 12, 2004**

PERMIT NUMBER: **ME0100633**
LICENSE NUMBER: **W001370-5M-F-R**

NAME AND ADDRESS OF APPLICANT:

CITY OF SOUTH PORTLAND
P.O. Box 9422
South Portland, Maine 04116-9422

COUNTY: **Cumberland County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

South Portland Water Pollution Control Facility
111 Waterman Street
South Portland, Maine 04116-9422

RECEIVING WATER/CLASSIFICATION: **Fore River/Class SC**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Patrick Cloutier, Director**
Water Resource Protection
(207) 767-7675

1. APPLICATION SUMMARY

Application: The City has applied to the Department for renewal of Department Waste Discharge License (WDL) #W001370-5M-D-R which was issued on March 31, 1999 and is due to expire on March 31, 2004. The 3/31/99 WDL authorized the discharge of up to a monthly average flow of 9.3 million gallons per day (MGD) of secondary treated sanitary waste waters and an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from a municipal waste water treatment facility to the Fore River, Class SC, in South Portland, Maine. The 3/31/99 WDL also authorized the discharge of untreated combined sanitary and storm water from twelve (12) combined sewer overflow (CSO) outfalls to eight different receiving waters that are classified as either Class C or Class SC pursuant to Maine law.

2. PERMIT SUMMARY

a. Regulatory: On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) permitting program in Maine. From this point forward, the program will be referenced as the MEPDES permit program. NPDES permit #ME0100633 last issued by the EPA on September 30, 1997 and expired on September 30, 2002, will be replaced upon issuance of a final MEPDES permit. Once replaced, all terms and conditions of the NPDES become null and void.

b. Permit Summary: **This permitting action is similar to the 3/1/99 WDL action in that it is;**

Secondary Treated Waste Waters:

1. Carrying forward the monthly average flow limit of 9.3 MGD.

2. Carrying forward the monthly average and weekly average technology based mass and concentration limits for biochemical oxygen demand (BOD_5) and total suspended solids (TSS).

3. Carrying forward the reporting requirement for the daily maximum mass loadings for BOD_5 and TSS.

4. Carrying forward the monthly average and daily maximum water quality based limits fecal coliform bacteria.

5. Carrying forward the monthly average and daily maximum water quality based concentration limit for total residual chlorine.

6. Carrying forward the surveillance and screening level whole effluent toxicity (WET) and chemical specific (priority pollutant) testing.

7. Carrying forward the monthly average water quality based mass and concentration limits for ammonia.

8. Carrying forward the water quality based chronic no observed effect level (C-NOEL) for the sea urchin and the acue nobserved effect level (A-NOEL) limitations for the mysid shrimp.

2. PERMIT SUMMARY (cont'd)

Primary Treated Waste Waters:

9. Carrying forward monthly average and or daily maximum reporting requirement for mass and concentration for flow, surface overflow rates, number of discharge days per month, settleable solids and percent removal for BOD5 and TSS.

10. Carrying forward the daily maximum technology based limits for fecal coliform bacteria and total residual chlorine.

This permitting action is different than the 3/31/99 WDL action in that it is;

Secondary Treated Waste Waters:

11. Revising the disinfection season from May 10th – September 30th to May 15th – September 30th to be consistent with state law.

12. Establishing a daily maximum best practicable treatment (BPT) limit of 0.3 ml/L for settleable solids and deleting the monthly average concentration reporting requirement.

13. Revising the daily maximum BPT pH range limit from 6.0 – 8.5 standard units to 6.0 – 9.0 standard units based on a new Department regulation.

14. Establishing a requirement for achieving a minimum of 85% removal for BOD5 and TSS.

15. Requiring that surveillance level (1/Year) WET testing and chemical specific testing to be conducted in a different calendar quarter of each year for the first four years of the permit.

16. Establishing a water quality based daily maximum mass and concentration limits for copper and requiring the City to submit a toxicity reduction evaluation (TRE) for copper.

17. Eliminating the monitoring requirement for fluoride.

18. Requiring the permittee to maintain an up-to-date Operations and Maintenance (O&M) Plan and Wet Weather Management Plan.

2. PERMIT SUMMARY (cont'd)

Primary Treated Waste Waters:

19. Revising the disinfection season from May 10th – September 30th to May 15th – September 30th.

20. Revising the pH range limitation from 6.0 –8.5 standard units to 6.0 – 9.0 standard units.

c. History – The most current relevant licensing/permitting actions include:

September 28, 1987 - The Department issued WDL #W001370-47-C-R for a five-year term.

January 23, 1992 - The City of South Portland, the Department and the EPA entered into a Consent Decree that established a schedule of compliance to upgrade the City's waste water treatment facility. The schedule of compliance established a deadline of August 1, 1995 as a deadline for the substantial completion of the upgrade which the City of South Portland subsequently achieved.

September 30, 1997 – The EPA issued NPDES permit renewal #ME0100633 for a five-year term.

November 10, 1997 – The EPA issued an Administrative Order (AO Docket No. 98-02) authorizing with conditions, the discharge of primary treated and disinfected waste waters from the City's combined sewer overflow (CSO) bypass once the peak hourly flow through the secondary treatment process of the treatment facility exceeded 22.9 MGD or 15,900 gallons per minute (gpm).

March 1, 1999 - The Department issued WDL #W001370-5M-D-R for a five-year term. It is noted the WDL also included authorization to discharge primary treated and disinfected waste waters associated with the CSO bypass cited above.

June 1, 2000 – The Department administratively modified the 3/1/99 WDL by establishing interim maximum and mean technology based concentration limitations of 4.8 ng/L and 7.2 ng/L, respectively for mercury. It is noted the limitations are not found in this specific permitting document as limitations and monitoring requirements have been subject to numerous modifications in recent years. 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.

December 24, 2003 – The City of South Portland submitted an application to the Department to renew the 3/1/99 WDL.

2. PERMIT SUMMARY (cont'd)

c. Source Description: The facility located on Waterman Drive in South Portland treats domestic, industrial, and commercial waste waters from South Portland and parts of Cape Elizabeth. The facility serves a population of approximately 23,000 people. The applicant

cites eleven (11) industrial users on the collection system which are permitted by the City. There are six (6) significant industrial users (SIUs) currently contributing waste waters to the treatment facility for which pretreatment of their waste waters is required and monitored by the City. The SIUs include, Fairchild Semiconductor, National Semiconductor, Clean Harbors, ENPRO of Maine, Portland Shellfish and the Monson Companies. The City has an approved pretreatment program developed in accordance with federal regulation 40 CFR 403 and Department rule Chapter 528.

The facility is authorized to receive up to 20,000 gallons per day (gpd) and treat up to 10,000 gallons per
permittee has submitted updated septage management plan pursuant to CMR 096 Chapter 555 as an exhi
for renewal of the WDL. The updated septage management plan has been reviewed and approved by the
license/permit renewal.

The City's sewer collection system is approximately 111 miles in length and is approximately 25% combined and 75% separated with 28 pump stations. Fourteen (14) of the pump stations are equipped with on-site back-up power in the event of a power outage and the remaining 14 pump stations are equipped with hook-ups for back-up power provided by portable generators. The collection system does not have sufficient capacity to transport the volume of inflow and infiltration (I&I) of water experienced during periods of rainfall and snow melt. There are eight (8) remaining permitted combined sewer overflows (CSOs), outfalls [down from eleven (11) at the time of the previous licensing action] associated with the collection system and are listed in Special Condition L, *Combined Sewer Overflows (CSO)*, of this permitting action.

In October of 1993, the permitte submitted a CSO abatement master plan to the Department for review and approval. The master plan was approved by the Department on September 29, 1994. The master plan assesses a full range of abatement alternatives, taking into consideration technical, environmental, and economic factors. It shall also provide for on-going compliance monitoring to be done during implementation of recommended abatement measures. Special Condition L §4 of this permit requires the permittee to submit an updated abatement plan to the Department for review and approval on of before November 30, 2006.

2. PERMIT SUMMARY (cont'd)

d. Waste Water Treatment: Waste waters treated by the City are conveyed to the treatment facility via two the Main Pump Station and the Pearl Pump Station. The Main Pump Station is equipped with a coarse m waste waters entering the wet well via gravity. The pump station conveys flows to two aerated grit cham the Pearl Street Pump Station are combined with the flows from the Main Street Pump Station just downs chambers. The
combined waste streams flow by gravity through a Parshall flume [measuring twelve (12) inches] for flow through a mechanical bar rack. After this preliminary treatment, flows are conveyed by gravity directly t splitter box such that flows can be split to whichever aeration basin trains are on line.

Three trains of aeration basins, each train with three aeration basins, provide an environment for the biolo waters. Two of the aeration trains utilize fine bubble aeration for aeration and mixing. The third train uti equipment. The aeration basin effluent (mixed liquor) is conveyed by gravity to the secondary clairfier flo distribution to any of the three secondary clarifiers (or combination thereof) for settling. Each clarifier is Secondary clarifier effluent is then conveyed by gravity through an effluent magmeter measuring 48 inch and then to the chlorination chamber for seasonal disinfection with sodium hypochlorite. Flows then proc chlorine contact tank to the dechlorination chamber where the effluent is seasonally dechlorinated prior t River. The discharge to the Fore River is by gravity through a pipe measuring 54 inches in diameter (witc out into the main channel of the river. The permittee has indicated there is approximately 4.5 feet of wate at mean low water levels.

As part of its combined sewer overflow abatement program, the City is treating a portion of the excess co waste water treatment facility. To the extent possible, combined sewer flows will receive secondary treat weather flows. However, in order to prevent damage to the treatment system by upsetting the biological water receiving secondary treatment is limited. The facility will treat as much combined waste water as p seasonal variations and the need to maintain stable treatment for dry weather flows, the amount of combi secondary treatment may vary at any given time.

Bypasses around the secondary treatment process at the treatment facility occur in one of two scenarios. First, should the flow reaching the Main Pump Station be greater that the capacity of the influent pumps, the influent wet well will surcharge into the overflow wet well. The second scenario in which a bypass can occur is a result of operational decisions by plant personnel. Should the incoming flows to the treatment facility as measured at the influent Parshall flume exceed a peak hourly flow rate of 15,900 gpm (22.9 MGD), pumps at the Main Pump Station are ramped down to allow Pearl Street flows to be maximized. The intention is that an untreated CSO bypass can be averted at Pearl Street

2. PERMIT SUMMARY (cont'd)

and a bypass of secondary treatment is created at the treatment facility where peak hourly flows exceeding 15,900 gpm up to an instantaneous peak flow rate of 23,000 gpm (33.1 MGD) receive primary treatment via three overflow clarifiers and disinfection before blending with the secondary effluent and discharging to the Fore River. In their 12/24/03 application for renewal of the WDL, the permittee has indicated that over the period 1999 – 2003, the secondary bypass flows receiving primary treatment only (along with disinfection) has been active on an average of 7-8 times per year (high of 9 events), averages 2.9 million gallons (MG) per discharge (high of 5.36 MG) with an average duration of 5.9 hours per event (high of 9.26 hours).

Under either of the two scenarios described above, overflow pumps convey excess flows beyond the stati
overflow wetwell to the overflow channel adjacent to the Main Pump Station. Sodium hypochlorite is ad
for disinfection purposes. Flow then travels by gravity to the overflow clarifier flow splitter where flows
the three dedicated primary overflow clarifiers. If necessary, sodium hypochlorite is added at the flow spl
purposes. In the clarifiers, primary treatment occurs through settling. The flows exit the clarifiers and dra
overflow dechlorination chamber attached to the side of the main chlorine contact tank for the facility. S
the primary treated and disinfected waste water for dechlorination prior to blending with the secondary ef
Fore River through the same 54" pipe used to convey secondary treated flows. See Attachment A of this
schematic/site plan of the treatment plant.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, 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, Maine law, 38 M.R.S.A., Section 420, and Department Regulation Chapter 530.5, *Surface Water Toxics Control Program* requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

4. RECEIVING WATER QUALITY STANDARDS: Maine law, 38 M.R.S.A., Article 4-A §469(E) classifies the Fore River as a Class SC waterway. Maine law, 38 M.R.S.A., Article 4-A, §465-A(3) describes the classification standards for Class SC waters.

5. RECEIVING WATER CONDITIONS

A document entitled, *The State of Maine, Department of Environmental Protection, 2002 Integrated Water Quality Monitoring and Assessment Report*, published by the Department indicates that sampling conducted in calendar year 2001 indicates the designated use of *"…suitable for … habitat for fish and other estuarine and marine life"* in the Fore River estuary in South Portland is impaired. The report indicates the cause of the impairment is toxics and bacteria from muni sewer overflows and storm water runoff from hazardous waste sites and non-point sources. The Department l 2012 to prepare a total maximum daily load (TMDL) report to address the impairment.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Secondary Treated Effluent:

a. Flow: The monthly average flow limitation of 9.3 MGD in the previous licensing action is being carried forward in this permitting action and is representative of the monthly average design flow for the secondary treatment side of the waste water treatment facility. It is noted the facility has been designed to provide secondary treatment for flows up to 22.9 MGD.

b. Dilution Factors - Department Regulation Chapter 530.5, *Surface Water Toxics Control Program*, Octob §D(3)(b)(ii) states that for discharges to estuaries, dilution must be calculated using a method determined appropriate for the site conditions. Where freshwater river flow is dominant and instantaneous mixing acr assumed, dilution must be calculated as in subsection D(3)(a). Where tidal flow is dominant or incomplete dilution must be calculated as in subsection D(3)(b)(i). Where appropriate, other methods such as dye studies or water quality methods ma

Chapter 530.5 §D(3)(b)(i) states that for discharges to the ocean, dilution must be calculated as near-field dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low for the acute exposure analysis and at mean tide for the chronic exposure analysis using appropriate mode Department such as MERGE or CORMIX.

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

Secondary Treated Effluent:

Based on the location and configuration of the outfall pipe, a dye study conductd in 1997 and considerati the Department has determined that at the full permitted flow of 9.3 MGD, the discharge from the South treatment facility will be diluted by the following factors:

Acute = 6.0:1 Chronic = 10.0:1 Harmonic mean [(1)] = 30:1

Footnote:

(1) The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by t multiplying factor is based on guidelines for estimation of human health dilution presented in the U *"Technical Support Document for Water Quality-based Toxics Control"* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on whi dilutions are based in a riverine 7Q10 flow situation.

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): - The previous licensing established monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that were based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR 133.102 and Department rule Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action.

As for mass limitations, the previous licensing action established monthly average and weekly average limitations based on a monthly average limit of 9.3 MGD that are being carried forward in this permitting action. The limitations were calculated as follows:

Monthly average: (9.3 MGD)(8.34)(30 mg/L) = 2,327 lbs/day
Weekly average: (9.3 MGD)(8.34)(45 mg/L) = 3,490 lbs/day

No daily maximum mass limitations (report only) for BOD5 or TSS were established in the previous licensing or this permitting action as doing so may discourage the City from treating as much waste water as possible through the secondary treatment system during wet weather events.

This permitting action also establishes a new requirement of 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3).

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

Secondary Treated Effluent:

Monitoring frequencies for BOD and TSS of 5/Week are being carried forward from the previous licensing action and are based on Department policy for facilities with a monthly average flow limitation greater than 5.0 MGD.

d. Settleable Solids – The previous licensing action established reporting requirements for monthly average and daily maximum concentrations for settleable solids. The Department has reconsidered its position on reporting requirements versus numeric limitations. This permitting action is establishing a daily maximum concentration limit of 0.3 ml/L for settleable solids and is considered a Department best professional judgment of BPT for secondary treated waste waters. This permitting action is eliminating the monthly average reporting requirement.

e. Fecal coliform bacteria – The previous licensing action established a seasonal (May 10 – September 30) monthly average and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml respectively, that are consistent with the National Shellfish Sa limits are being carried forward in this permitting action but the disinfection season is being revised to the May 15 – September 30 to be consistent with the time frame in Maine law, 38 MRSA, Article 4-A, §465-

f. Total Residual Chlorine - The previous licensing action established monthly average and daily maximum water quality based limits of 0.075 mg/L and 0.078 mg/L respectively for the discharge. Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of the water quality or technology based limits in permitting actions. End-of-pipe water quality based concentration thresholds may be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	0.013 mg/L	0.0075 mg/L	6.0:1	10.1:1	0.078 mg/L	0.075 mg/L

Example calculation: Acute – 0.013 mg/L (6) = 0.078 mg/L

The Department has established a daily maximum 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 de-chlorinate the discharge to meet water quality based thresholds (as is the case with South Portland), the Department has established daily maximum and

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

Secondary Treated Effluent:

monthly average BPT limits of 0.3 mg/L and 0.1 mg/L respectively. In the case of the South Portland, the acute water quality based threshold of 0.078 mg/L calculated above is lower than the BPT limit of 0.3 mg/L, thus the water quality based limit of 0.078 mg/L is being carried forward in this permitting action as daily maximum limit. As for monthly

average, the calculated chronic water quality based threshold of 0.075 mg/L is lower than the BPT limit of 0.1 mg/L, thus the water quality based limit of 0.075 mg/L is being carried forward in this permitting action as a monthly average limitation.

g. pH Range- The previous licensing action established a pH range limitation of 6.0 - 8.5 standard units. The limits were based on Maine Board of Environmental Protection Policy regarding the certification of NPDES permits and were considered BPT limitations. This permitting action is expanding the range limit from 6.0 – 8.5 to 6.0 –9.0 standard units pursuant to a new Department rule found at Chapter 525(3)(III)(c). The new limits are considered BPT.

h. Whole Effluent Toxicity (WET) and Chemical Specific Testing Maine Law, 38 M.R.S.A., Sections 414-A and 420, prohibits the discharge of effluents containing substances in amounts which would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the EPA. Department Rules, 06-096 CMR Chapter 530.5, *Surface Water Toxics Control Program*, set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET and chemical specific (priority pollutant) testing, as required by Chapter 530.5, is included 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 waste water, existing treatment and receiving water characteristics.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Chemical specific, or "priority pollutant (PP)," testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria.

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

Secondary Treated Effluent:

The Chapter 530.5 regulation places the South Portland facility in the high frequency category for WET testing as the facility is required to adopt a pretreatment program under federal regulations and in the high frequency testing category for chemical specific testing as they are permitted to discharge greater than 1.0 MGD.

A recent review of the City of South Portland's data indicates that they have fulfilled the Chapter 530.5 testing requirements to date. See Attachment B of this Fact Sheet for a summary of the WET test results and Attachment C of this Fact Sheet for a summary of the chemical specific test dates.

Department Rule Chapter 530.5 and Protocol E(1) of a document entitled *Maine Department of Environmental Protection, Toxicity Program Implementation Protocols*, dated July 1998, states that statistical evaluations shall be periodically performed on the most recent 60 months of WET and chemical specific data for a given facility to determine if water quality based limitations must be included in the permit.

Chapter 530.5 §C(2) states when a discharge *"...contains pollutants at levels that have a reasonable potential [RP] to cause or contribute to an ambient excursion in excess of a numeric or narrative water quality criterion, appropriate water quality based limits must be established in the permit upon issuance."*

Chapter 530.5 §C(3) also states that if data indicates that a discharge is causing an exceedence of applicable AWQC, then*:"(1) the Department must notify the licensee of the exceedence; (2) the licensee must submit a toxicity reduction evaluation (TRE) plan for review and approval within 30 days of receipt of notice and implement the TRE after Department approval; (3) the Department must modify the waste discharge license to specify effluent limits and monitoring requirements necessary to control the level of pollutant and meet receiving water classification standards within 180 days of the Department's approval of the TRE."*

WET testing

On January 30, 2004, the Department conducted a statistical evaluation on the aforementioned tests results in accordance with the statistical approach outlined in EPA's March 1991 document entitled *Technical Support Document (TSD) for Water Quality Based Toxics Control*, Chapter 3.3.2 and Maine Department of Environmental Protection

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

Secondary Treated Effluent:

Guidance, July 1998, entitled *Toxicity Program Implementation Protocols*. The results of the 1/30/04 WET evaluation against the critcal acute and chronic thresholds of 16.7% and 10.0% respectively, indicates the following test results are of concern:

			Acute		Chronic		
Date	Species	Result		Exc.	RP	Exc.	RP
8/6/00	Mysid Shrimp	14.8%	No	Yes	N/A	N/A	
8/6/00	Sea Urchin	<6.25%	N/A	N/A	Yes	Yes	
11/28/00	Sea Urchin	10.0%	N/A	N/A	No	Yes	
5/1/01	Mysid Shrimp	23.3%	No	Yes	N/A	N/A	
8/19/01	Sea Urchin	10.0%	N/A	N/A	No	Yes	

Therefore, in accordance with Chapter 530.5,§C(2) and C(3), the Department is establishing an A-NOEL limitation of 16.7% for the mysid shrimp and a C-NOEL limit of 10.0% for the sea urchin.

The Department establishes the testing frequency for WET species that exceed or have a reasonable potential to exceed critical ambient water quality thresholds (mathematical inverse of the applicable dilution factors) taking into consideration the frequency, timing and severity of the tests results that are at issue. A more in-depth review of the WET data in Attachment B of this Fact Sheet indicates that the permittee has conducted eight (8) WET tests on three species (mysid shrimp, inlandsilverside and the sea urchin) since the most recent test of concern (8/19/01) that when statistically evaluated do not exhibit any exeedences or reasonable potential to exceed the critical water quality thresholds for any of the three species. Therefore, the Department has made a best professional judgment to maintain a surveillance level of testing (1/Year) for all three WET test species for the first four years of the permit. Beginning twelve months prior to the expiration date of the permit the monitoring frequency reverts back to a screening level testing of 1/Quarter pursuant to the criteria established in Chapter 530.5. See Special Condition A, *Effluent Limitations and Monitoring Requirements*, of the permit.

The Department has also made the determination that the eight (8) WET test results on the sea urchin since the most recent test result of concern (8/19/01) consitutes a Phase I TRE and no further action on the TRE is required at this time.

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

Secondary Treated Effluent:

Chemical Specific Testing

As for the chemical specific elements/compounds tested to date (Seee Attachment C of this Fact Sheet), the 1/30/04 statistical evaluation indicates the following:

- One test result of 11.0 mg/L for ammonia on 7/10/02 exceeds the chronic AWQC.

- Fifteen test results for copper have a reasonable potential to exceed the acute AWQC and six test results have a reasonable potential to exceed the chronic AWQC for copper. Several of these results exceed the acute AWQC and or chronic AWQC for copper.
- One test result of 505 ug/L for zinc on 8/17/03 has a reasonable potential to exceed the acute AWQC.

Therefore, in accordance with Chapter 530.5,§C(2) and C(3), the Department is establishing monthly average (chronic) and daily maximum (acute) limitations for ammonia (seasonal)copper and zinc.

Acute

Parameter	Acute[(1)] Criterion	Acute Dilution Factor	Acute Con.	Calculated EOP[(2)] Mass Limit	Daily Max.
Copper	2.9 ug/L	6.0:1	17 ug/L		1.3 lbs/day
Zinc	95 ug/L	6.0:1	570 ug/L		44 lbs/day

Example Calculation:

$$\text{Copper} - \frac{(2.9\ \text{ug/L})(6.0)(8.34)(9.3\ \text{MGD})}{1000\ \text{ug/mg}} = 1.3\ \text{lbs/day}$$

Footnotes:

(1) Based on EPA's 1986 AWQC.
(2) End-of-pipe.

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

Secondary Treated Effluent:

Chronic

Parameter	Criterion	Chronic Dilution Factor[1]	Chronic Con.	Calculated EOP[2] Month Avg. Mass Limit
Ammonia	1.0 mg/L[3]	10:1	10 mg/L	776 lbs/day
Copper	2.9 ug/L	10:1	29 ug/L	2.2 lbs/day

Example Calculation:

Ammonia - $\frac{(1.0 \text{ mg/L})(10)(8.34)(9.3 \text{ MGD})}{1000 \text{ ug/mg}} = 776 \text{ lbs/day}$

Footnotes:

(1) Based on EPA's 1986 AWQC.
(2) End-of-pipe.
(3) Based on EPA's AWQC, seasonal (June – October)

The calculations for copper above are correct in that the monthly average limits calculated are higher tha calculated. This anomaly occurs when the acute and chronic AWQC is the same (2.9 ug/L) but the acute the chronic dilution factor. As a result, the Department is establishing the more stringent of the two, the d 1.3 lbs/day.

Concentration limits in this permitting action are based on Department rule Chapter 523, §6(f)(2) which states that pollutants limited in terms of mass additionally may be limited in terms of other units of measurement and the permit shall require the permittee to comply with both limitations.

In addition, EPA's Technical Support Document For Water Quality Based Toxics Control, March 1991, Chapter 5, Section 5.7, recommends that permit limits for both mass and concentration be specified for effluents discharging into waters with less than 100 fold dilution to ensure attainment of water quality standards. As not to penalize the permittee for operating at flows less than the permitted flow of the waste water plant, the

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

Secondary Treated Effluent:

Department is establishing concentration limits based on a factor of 1.5 as the permittee has consistently discharge at or below 2/3rds of the monthly average license limit of 9.3 MGD. Therefore, concentration limits for ammonia, copper and zinc in this permitting action have been calculated to be:

Parameter	Calculated EOP Concentration	Monthly Avg. Conc. Limit	Daily Maximum Conc. Limit
Ammonia	10 mg/L	15 mg/L	---
Copper	17 ug/L	---	26 ug/L
Zinc	570 ug/L	---	856 ug/L

The Department establishes the testing frequency for chemical specific parameters that exceed or have a reasonable potential to exceed AWQC taking into consideration the frequency, timing and severity of the tests results that are at issue. A more in-depth review of the chemical specific data in Attachment C of this Fact Sheet indicates that the permittee has:

Ammonia – Being that ammonia toxicity is pH and temperature dependent, and the statistical evaluation has only flagged one test result in the summer months as exceeding applicable AWQC, this permitting action is only establishing a summertime limitation and monitoring requirement. The permittee has conducted six (6) tests for ammonia during the time frame June through September subsequent to the 7/10/02 test result of concern. A statistical evaluation of these six results indicates no exceedences or a reasonable potential to exceed the seasonal acute or chronic AWQC. Therefore, the Department has made a best professional judgment to maintain a surveillance level of testing (1/Year) anytime during the period June 1 – October 30. The Department has also made the determination that these six test results for ammonia consitute a Phase I TRE and no further action on the TRE is required at this time.

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

Secondary Treated Effluent:

Copper – Due to the extensive number of test results in the most current 60-month evaluation period that exceed or have a reasonable potential to exceed acute and chronic AWQC, the Department has made a best professional judgment to establish a monitoring requirement of 1/Month for copper. In addition, Special Condition M, *Toxicity Reduction Evaluation (TRE)*, of this permiting action requires the permittee to submit a TRE for copper to the Department for review and approval within 90 days of issuance of this permit.

Zinc - The permittee has conducted twenty seven (27) tests for zinc subsequent to the 11/29/00 test result of concern. A statistical evaluation of these 27 results indicates no exceedences or a reasonable potential to exceed any of the applicable AWQC. Therefore, the Department has made a best professional judgment to maintain a surveillance level of testing (1/Year).

As for the remaining chemical specific elements/compounds, the test results submitted to date indicate the discharge does not exceed or have a reasonable potential to exceed applicable AWQC. Therefore, this permitting action is establishing a surveillance level monitoring frequency of 1/Year for the first four years of the permit. Beginning twelve months prior to the expiration date of the permit, the permittee shall revert back to a screening level testing of 1/Quarter. See Special Condition A, *Effluent Limitations and Monitoring Requirements* of the permit.

Primary Treated Effluent:

The applicant maintains a combined sewer system from which wet weather overflow have been documented. To address and control these events, the applicant has completed a Master Plan (Long Term Control Plan) for its sewer systems and has considered various control options. The Department approved the Master Plan on September 29, 1994. The plan addresses all of the relevant considerations contained in EPA's CSO Policy, section II.C. See Federal Register, April 19, 1994. One element of the applicant's Master Plan is to maximize existing infrastructure to covey as much excess wet weather flow to the treatment facility as practicable. However, due to the nature and volume of wet weather flows, it is not possible to provide secondary treatment for all flows that can be conveyed to the treatment plant site. Attempting to do so would cause upsets and damage to the secondary treatment process. Expansion of the secondary system would not be practicable since the facilities would be too large to effectively treat normal dry weather flows.

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

Given these circumstances, and consistent with EPA's April 19, 1994 CSO Policy, section II.C.7, the Department has determined that primary treatment and disinfection (when required) is an appropriate means of best practicable treatment (BPT) for some excess CSO flows and this treatment be accomplished at the existing treatment facility site. A review of the Master Plan, the design of the existing secondary system and past operational records indicates that secondary treatment can be provided for flows up to a hourly/daily peak of 22.9 MGD. However, to assure that the secondary treatment capacity is fully utilized, the permit contains a requirement for a High Flow Management Plan that will be update periodically. Flows delivered to the treatment facility site in excess of that which can be given secondary treatment will receive primary treatment using three overflow clarifiers and disinfection using sodium hypochlorite and dechlorinating with sodium bisulfate to achieve a daily maximum BPT limit of 0.1 mg/L. Since the flow receiving primary treatment will likely be dilute under wet weather conditions, traditional removal rates for primary treatment are not likely to be consistently achieved. Therefore, no minimum percent removal limitations (monitor and report only) have been established in this permitting action for waste water receiving primart treatment only. In addition, this permit requires monitoring and reporting only for BOD and TSS, along with Surface Overflow Rate.

Bacterial contamination is the most direct water quality risk from wet weather discharge events and the permit contain limits for fecal coliform bacteria and total residual chlorine for those times of the year when disinfection is required to meet water quality standards. Since the primary effluent is somewhat more difficult to disinfect due to a higher organic content and flow variations, the use a daily maximum of 50 col/100mL for fecal coliform bacteria as in the secondary effluent would be inappropriate. Using best professional judgement, the Department is establishing a fecal coliform effluent concentration of 200 col/100mL. Given the available dilution, this value is protective of receiving water quality. The total residual chlorine limit is established using the same considerations as for the secondary effluent, see section 6(f) of the Fact Sheet.

7. PRETREATMENT

The permittee is required to administer a pretreatment program based on the authority granted under Federal regulations 40 CFR §122.44(j), 40 CFR Part 403 and section 307 of the Federal Water Pollution Control Act (Clean Water Act) and Department rule Chapter 528, *Pretreatment Program.* The permittee's pretreatment program received EPA approval on September 30, 1983**,** and as a result, appropriate pretreatment program requirements were incorporated into the previous National Pollutant Discharge Elimination System (NPDES) permit which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued. Since issuance of the previous NPDES permit, the State of Maine has been authorized by the EPA to administer the federal pretreatment program as part of receiving authorization to administer the NPDES program.

7. PRETREATMENT (cont'd)

Upon issuance of this MEPDES permit, the permittee is obligated to modify (if applicable) its pretreatment program to be consistent with current federal regulations and State rules. Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce Department approved specific effluent limits (technically-based local limits - last approved by the EPA on October 5, 2000 (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with federal regulations and State rules; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant non-compliance for industrial users; and (6) establish a definition of and track significant industrial users.

These requirements are necessary to ensure continued compliance with the POTW's MEPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, this permit requires that within 180 days of the permit's effective date, the permittee shall submit to the Department in writing, a description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal and State pretreatment regulations and rules respectively. These requirements are included in the permit (Special Condition O) to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements

in effect. Lastly, by September 1st of each calendar year, the permittee must submit a pretreatment report detailing the activities of the program for the twelve month period ending 60 days prior to the due date.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The Department acknowledges that the elimination of the eight CSO's in the collection system and the secondary bypass (primary treated only) of sanitary wastewater is a costly long term project. As the City's sewer collection system is upgraded and maintained in accordance with the most current abatement schedule in the City's CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO activities and in the waste water receiving primary treatment only at the treatment plant over time. The Department expects these reductions to show an improvement in the ambient water quality of the Fore River and other receiving waters impacted by CSO discharges. A more in-depth review of the water quality and impairment issue for the Fore River estuary cited in Section 5, *Conditions,* of this Fact Sheet is scheduled for calendar year 2012 when a total maximum daily load (TMDL) performed by the Department. Based on information to date, the Department of Environmental Protection ha determined the existing water uses will be maintained and protected provided the permittee complies with the terms and condition established herein.

With the exception of the pH range limitations, the effluent limitations in this permit are equal to or more stringent than the limits in the previous license and/or effective NPDES permit.

9. PUBLIC COMMENTS

Public notice of this application was made in the Portland Press Herald newspaper on or about December 3, 2003. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

10. DEPARTMENT CONTACTS

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

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7693

11. RESPONSE TO COMMENTS

During the period March 12, 2004 through issuance of the permit/license, the Department solicited comments federal agencies and interested parties on the proposed draft MEPDES permit and Maine WDL to be issued f said permit/license. The Department did not receive any substantive comments from any party that resulted i permit. Therefore, no Response to Comments has been prepared.