

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES.

NPDES PERMIT NO.: MA0101893

STATE PERMIT NO.: M-80

NAME AND ADDRESS OF APPLICANT:

Mr. Manuel J. Sylvia, Jr.
Chairman, Board Of Selectmen
Town of Wareham
Town Hall, Route 6-Marion Road
Wareham, Massachusetts 02571

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Wareham Water Pollution Control Plant
Route 6, off Sandwich Road
Wareham, Massachusetts 02571

RECEIVING WATER: Agawam River

CLASSIFICATION: SB

I. Proposed Action, Type of Facility, and Discharge Location.

The above named applicant has requested that the U.S. Environmental Protection Agency reissue its NPDES permit to discharge into the designated receiving waters. The facility is engaged in collection and treatment of domestic wastewater. The discharge is from wastewater treatment plant.

II. Description of Discharge.

A quantitative description of the discharge in terms of significant effluent parameters based on recent monitoring data is shown on Attachment A.

III. Limitations and Conditions.

The effluent limitations of the draft permit and the monitoring requirements may be found in the draft NPDES permit.

standards of the receiving waters are protected and maintained, or attained. Biological assay through whole effluent testing is being used in this regard.

Chlorine and chlorine compounds produced by the chlorination of wastewater can be extremely toxic to aquatic life. The receiving water may or may not provide sufficient dilution of these compounds discharged by the Water Pollution Control Plant to meet the EPA recommended instream criteria for acute and chronic toxicity levels specified in the water quality criteria document. The criteria states that the four-day average concentration total residual chlorine (TRC) in the receiving water should not exceed 7.5 ug/l more than once every three years on the average and if the one-hour average concentration does not exceed 13 ug/l more than once every three years on the average. Based on the above potential for toxicity as a result of chlorine, the permit is conditioned to include a prohibition regarding toxicity. The permittee is further conditioned to limit chlorine concentration. The sampling point for chlorine is at the end of discharge pipes. Because the discharge pipes are above water most of the time, no dilution water were assigned to the discharge. Hence, the total residual chlorine criteria will have to meet at the end of the discharge pipes.

E. Sludge

The draft permit prohibits sludge discharges. In addition, Section 405(d) of the Clean Water Act requires that sludge conditions be included in all POTW permits. Because of the permittee disposes its sludge by landfill, the guideline on 40 CFR Part 503 specified that the permittee shall monitor the 126 priority pollutants, and furthermore, monitor some parameters on a more frequent basis.

V. State Certification Requirements

The staff of the Massachusetts State Water Pollution Control Agency have reviewed the draft permit. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the draft permit will be certified.

VI. Public Comment Period, Public Hearing, and Procedures for Final Decision

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Compliance Branch, JFK Federal Building, Boston, Massachusetts 02203. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates

Permit No.MA0101893

ATTACHMENT A

DATE	BOD (mg/l)		TSS (mg/l)	
	AVG	MAX	AVG	MAX
01/90	5	5	3	3
02/90	4	4	2	2
03/90	9	9	3	3
04/90	8	8	1	1
05/90	2	4	3	4
06/90	3	11	2	3
07/90	4	6	1	2
08/90	4	8	1	1
09/90	2	3	1	2
10/90	3	3	12	12



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

August 31, 1993

Joseph F. Murphy, Town Administrator
Town Hall
Route 6 - Marion Road
Wareham, MA 02571

Re: NPDES Permit No. MA0101893

Dear Mr. Murphy:

New England Bioassay, Inc., has brought to our attention an inconsistency between the toxicity testing requirements and the reporting dates under the referenced permit. The testing requirements are found on page 3 of 7 of the permit while the reporting dates are found on page 7 of 7.

In order to correct this inconsistency we are modifying page 7 of 7 as follows:

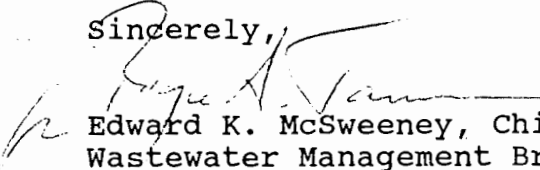
Toxicity test reports shall be submitted by June 15,
August 15, October 15, and February 15 to:

Enclosed for your information is a corrected page 7 of 7 with the noted change. Substitute this page in your copy of the permit.

This change in the reporting dates constitutes a minor modification of your NPDES permit in accordance with 40 CFR Part 122.63(a).

You may direct any questions or concerns to either Joy Palmer at 617/565-3487 or Roger Janson at 617/565-4877.

Sincerely,


Edward K. McSweeney, Chief
Wastewater Management Branch

cc: Paul Hogan, MADEP
James Shaw, Wareham WPCF

enc: page 7 of 7



A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfalls 001, 002, 003, and 004 (treated sanitary wastewater):

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>						<u>Monitoring Requirement</u>	
	Average <u>Monthly</u>	kg/day Average <u>Weekly</u>	(lbs/day) Maximum <u>Daily</u>	Average <u>Monthly</u>	(specify units) Average <u>Weekly</u>	Maximum ¹ <u>Daily</u>	Measurement <u>Frequency</u>	Sample <u>Type</u>
Flow (MGD)				(1.8)			Continuous	Note 2
BOD ¹	68(150)	102(225)	136(300)	10 mg/l	15 mg/l	20 mg/l	1/Week	8-hr Comp ¹⁰
TSS ¹	68(150)	102(225)	136(300)	10 mg/l	15 mg/l	20 mg/l	1/Week	8-hr Comp ¹⁰
Settleable Solids ¹					0.1 ml/l	0.3 ml/l	1/Day	Grab
pH ¹		(See Part I A 1.a on Page 4 of 7)					1/Day	Grab
Fecal Coliform ¹				88/100ml ³	88/100ml ³	88/100ml ³	1/Week	Grab ⁸
Chlorine Residual ¹						91 ug/l ⁹	1/Day	Grab ⁸
Kjeldahl Nitrogen, Nitrogen as NH ₃ , and Nitrate/Nitrite					report		2/Month	Grab ⁸
C-NOEC ⁴						14% ¹¹	See Attachment A ⁷ Composite	
LC50 ⁶						100% ⁵	See Attachment A ⁷ Composite	

The discharge shall not cause a violation of the water quality standards of the receiving water. Sampling must be done on all Outfalls in use at the time.

Footnotes: See page 3 of 7

- a. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 standard units and not more than 0.2 standard units outside of the normally occurring range.
- b. The discharge shall not cause objectionable discoloration of the receiving waters.
- c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- d. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
- e. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
- f. The total chlorine residual (and/or other toxic components) of the effluent shall not result in any demonstrable harm to aquatic life or violate any water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards, the permittee being so notified.

3. A change in the permittee's sludge use or disposal practice is a cause for modification of the permit. It is a cause for revocation and reissuance of the permit if the permittee requests or agrees.
4. The permittee shall annually monitor and report the 126 priority pollutants, as well as monitor and report for: benzene, benzo(a)pyrene, Bis(2)ethylhexylphthalate, chlordane, DDT/DDE/DDD (Total), dimethyl nitrosamine, lindane, PCBs, toxaphene, trichloroethylene, arsenic, boron, cadmium, chromium (total), copper, lead, mercury, molybdenum, nickel, selenium, and zinc six months later. Result for the 126 priority pollutants is to be submitted on September 30 each year.

D. STATE PERMIT CONDITIONS

This Discharge Permit issued jointly by the U. S. Environmental Protection Agency and the Division of Water Pollution Control under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Director of the Massachusetts Division of Water Pollution Control pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U. S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

E. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Permit Processing Section
P.O. Box 8127
Boston, Massachusetts 02114

The state agency is:

Massachusetts Department of Environmental Protection
Massachusetts Division of Water Pollution Control
Southeast Regional Office
Lakeville Hospital
Lakeville, Massachusetts 02346

Signed copies of all other notification and reports required by this permit shall be submitted to the State at:

Massachusetts Department of Environmental Protection
Massachusetts Division of Water Pollution Control
Regulatory Branch
1 Winter Street
Boston, Massachusetts 02108

Toxicity test reports shall be submitted by March 15, July 15, September 15, and November 15 to:

Technical Services Branch, Biology Section
Massachusetts Division of Water Pollution Control
40 Institute Road
Grafton, Massachusetts 01519
and
United States Environmental Protection Agency
New England Regional Laboratory, Biology Section
60 Westview Street
Lexington, Massachusetts 02173

V. DILUTION WATER

Dilution water used for acute toxicity analysis shall be collected at a point away from the discharge which is free from toxicity or other sources of contamination. When using receiving water as the dilution water an additional control (0% effluent), made up from a standard dilution water of known quality, will also be run.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate surface water or standard dilution water of known quality with a conductivity, salinity, total suspended solids, and pH similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. It may prove beneficial to the permittee to have the proposed dilution water source screened for suitability prior to toxicity testing. For further information, see Section 6, page 22 of EPA/600/4-85/013.

- | | |
|----------------------------|---|
| 18. Test acceptability | 90% or greater survival of test organisms in control solution |
| 19. Sampling requirements | For on-site tests, samples are used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 48 hours of collection. |
| 20. Sample volume required | Minimum 4 liters |
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Footnotes:

1. Adapted from EPA/600/4-85/013.
2. If dissolved oxygen falls below 40% saturation, aerate at rate of less than 100 bubbles/min. Routine DO checks are recommended.
3. When receiving water is used for dilution an additional control made up of standard dilution water (0% effluent) is required.

18. Sampling requirements

For on-site tests, samples must be used within 24 hours of the time they are removed from the sampling device. Off-site test samples must be used within 48 hours of collection.

19. Sample volume required

Minimum 4 liters

Footnotes:

1. Adapted from EPA/600/4-85/013.
2. If dissolved oxygen falls below 40% saturation, aerate at rate of less than 100 bubbles/min. Routine DO checks recommended.
3. When receiving water is used for dilution an additional control made up of standard dilution water (0% effluent) is required.

Toxicity test data shall include the following:

- Survival for each concentration and replication at time 24, and 48 hours.
- LC50 and 95% confidence limits shall be calculated using one of the following methods in order of preference Probit, Trimmed Spearman Karber, Moving Average Angle, or the graphical method. All printouts (along with the name of the program, the date, and the author(s)) and graphical displays must be submitted. When data is analyzed by hand, worksheets should be submitted.

The Probit, Trimmed Spearman Karber, and Moving Average Angle methods of analyses can only be used when mortality of some of the test organisms are observed in at least two of the (% effluent) concentrations tested (i.e. partial mortality). If a test results in a 100% survival and 100% mortality in adjacent treatments ("all or nothing" effect), a LC50 may be estimated using the graphical method.

- All chemical data/physical generated (include detection limits).
- Raw data and bench sheets.
- Any other observations or test conditions affecting test outcome.

X. REPORTING

Signed copies of the toxicity testing reports shall be submitted as required by of Part I of the permit.

V. DILUTION WATER

Dilution water used for toxicity analysis shall be collected at a point away from the discharge which is free from toxicity or other sources of contamination. When using receiving water as the dilution water an additional control (0% effluent), made up from a standard dilution water of known quality, will also be run.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate surface water or standard dilution water of known quality with a conductivity, salinity, total suspended solids, and pH similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. It may prove beneficial to the permittee to have the proposed dilution water source screened for suitability prior to toxicity testing. For further information, see Section 7, page 19 of EPA/600/4-87/028.

Dilution water used for marine chronic toxicity shall be of sufficient quality to meet minimum acceptability of test results. (See Sections VI and VII.)

For Arbacia punctulata, an uncontaminated source of natural seawater, deionized water mixed with hypersaline brine, or artificial sea salts with a salinity of 30 o/oo \pm 2 o/oo must be used.

For Champia parvula, an uncontaminated source of natural seawater (30 o/oo S) or a combination of 50 percent 30 o/oo salinity natural seawater and 50 percent 30 o/oo salinity artificial seawater must be used.

16. Acceptability of test results

Recommended sperm:egg ratio must result in fertilization of minimum of 70% of the eggs in the control chambers.

17. Sampling requirements

For on-site tests, samples are to be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 48 hours of collection.

18. Sample volume required

Minimum 2 liters.

Footnotes:

1. Adapted from EPA/600/4-87/028.
2. When receiving water is used for dilution an additional control made up of standard dilution water (0% effluent) is required.

16. Acceptability of test

Control mortality must not exceed 20%.

Plant fragmentation in the controls or lower exposure concentrations should be minimal.

Control plants must average 10 or more cystocarps.

17. Sampling requirements

For on-site tests, samples must be used within 24 hours of the time they are removed from the sampling device. Off-site test samples must be used within 48 hours of collection.

18. Sample volume

Minimum of 2 liters.

Footnotes:

1. Adapted from EPA/600/4-87/028.
2. When receiving water is used for dilution an additional control made up of standard dilution water (0% effluent) is required.

Toxicity test data shall include the following:

- Daily survival of test organisms in the controls and all replicates in each dilution if applicable.
- Chronic test data shall undergo hypothesis testing to determine if the distribution of results is normal using the Shapiro-Wilks test. The variance must also be tested for homogeneity using Bartlett's Test. Then the endpoint estimates, NOEC and LOEC must be determined using Dunnett's Procedure, Bonferroni's T-Test, Steel's Many-One Rank Test, or Wilcoxon Rank Sum Test. The choice of test depends on the number of replicates and whether the variance is homogeneous or not. See EPA/600/4-87/028 for details. (All printouts and graphical displays must be submitted, along with the name of the program, the date, and the author(s). When data is analyzed by hand, the worksheets should be submitted.)
- C-NOEC: Chronic-No Observed Effect Concentration.
- LOEC: Lowest Observed Effect Concentration.
- MATC: Maximum Allowable Toxicant Concentration.
- All chemical/physical data generated (include detection limits).
- Raw data and bench sheets. (See sample data sheets, pp. 53-57.)
- Any test conditions and observations affecting test outcome.

X. REPORTING

Signed copies of the toxicity testing reports shall be submitted as required by Part I of the permit.

Aliquots shall be split from the sample, containerized and preserved (as per 40 CFR Part 136) for the chemical and physical analyses. The remaining sample shall be dechlorinated (if necessary) in the laboratory using sodium thiosulfate for subsequent toxicity testing. Grab samples must be used for pH, temperature, and total residual oxidants (as per 40 CFR Part 122.21).

The Methods for Aquatic Toxicity Identification Evaluations (Phase I), EPA/600/3-88/034, Section 8.7, provides detailed information regarding the use of sodium thiosulfate (i.e. dechlorination).

All samples held overnight shall be refrigerated at 4°C.

V. DILUTION WATER

Dilution water used for toxicity analysis shall be collected at a point away from the discharge which is free from toxicity or other sources of contamination. When using receiving water as the dilution water an additional control (0% effluent), made up from a laboratory water of known quality, will also be run.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate or standard dilution water of known quality with a salinity, pH, conductivity, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. It may prove beneficial to the permittee to have the proposed dilution water source screened for suitability prior to toxicity testing. For further information see Section 7, page 19 of EPA/600/4-87/028.

Dilution water used for marine chronic toxicity shall be of sufficient quality to meet minimum acceptability of test results (see Section VI).

17. Dilution water	Uncontaminated source of natural seawater; or deionized water mixed with hypersaline brine or equivalent artificial seawater.
18. Effluent concentrations ³	5 and a control. An additional effluent concentration (% effluent) is required.
19. Dilution factor	0.5
20. Test duration	7 days
21. Effects measured	Survival and growth (weight)
22. Acceptability of test	The average survival of control larvae is a minimum of 80%, and the average dry wt of unpreserved control larvae is a minimum of 0.5 mg, or the average dry wt of preserved control larvae is a minimum of 0.43 mg.
23. Sampling requirements	For on-site tests, samples are collected daily and used within 24 hours of the time they are removed from the sampling device. For off-site tests, samples must be first used within 48 hours of collection.
24. Sample Volume Required	Minimum of 5 liters.

Footnotes:

- ¹ Adapted from EPA/600/4-87/028.
- ² If DO falls below 60% of saturation, aerate all chambers at a rate of less than 100 bubbles/min. Routine DO checks are recommended.
- ³ When receiving water is used for dilution an additional control made up of standard dilution water (0% effluent) is required.

VIII. TOXICITY TEST REPORT ELEMENTS

A report of results will include the following:

- Description of sample collection procedures, site description;
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis; and
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended.

Toxicity test data shall include the following:

Chronic

- Daily survival of test organisms in the controls and all replicates in each dilution.
- Chronic test data shall undergo hypothesis testing to determine if the distribution of results is normal using the Shapiro-Wilks test. The variance must also be tested for homogeneity using Bartlett's Test. Then the endpoint estimates, NOEC and LOEC must be determined using Dunnett's Procedure, Bonferroni's T-Test, Steel's Many-One Rank Test, or Wilcoxon Rank Sum Test with Bonferroni adjustment. The choice of test depends on the number of replicates and whether the variance is homogeneous or not. See EPA/600/4-87/028 for details. All printouts and graphical displays must be submitted.
- C-NOEC: Chronic No Observed Effect Concentration.
- LOEC: Lowest Observed Effect Concentration.
- MATC: Maximum Allowable Toxicant Concentration.
- All chemical/physical data generated (include detection limits).
- Raw data and bench sheets. (See sample data sheets pp. 8-11.)
- Any other observations and test conditions that may have affected the outcome of the test.

Acute

- Survival for each concentration and replication at time 24, and 48 hours.
- LC50 and 95% confidence limits shall be calculated using one of the following methods in order of preference Probit, Trimmed Spearman Karber, Moving Average Angle, or the graphical method. All printouts (along with the name of the program, the date, and the author(s)) and graphical displays must be submitted. When data is analyzed by hand, worksheets should be submitted.

The Probit, Trimmed Spearman Karber, and Moving Average Angle methods of analyses can only be used when mortality of some of the test organisms are observed in at least two of the (% effluent) concentrations tested (*i.e.* partial mortality). If a test results in a 100% survival and 100% mortality in adjacent treatments ("all or nothing" effect), a LC50 may be estimated using the graphical method.