

AUTHORIZATION TO DISCHARGE UNDER THE
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended,

The City of Warwick

is authorized to discharge from a facility located at

Warwick Wastewater Treatment Facility
125 Arthur W. Devine Blvd
Warwick, Rhode Island

to receiving waters named

Pawtuxet River

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

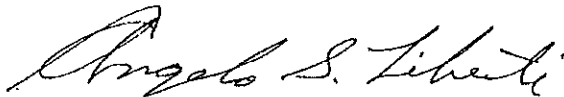
This permit shall become effective on December 1, 2008.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on June 1, 2000.

This permit consists of 27 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this 30th day of September, 2008.



Angelo S. Liberty, P.E., Chief of Surface Water Protection
Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A.
Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations			Concentration - specify units		Monitoring Requirement	
	Quantity - lbs./day Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Flow	7.7 MGD	--- MGD				Continuous	Recorder
CBOD ₅ (Nov 1-May 31) (June 1-June 30 & Oct. 1-Oct. 31) (July 1 - Sept. 30)	1,605 lb/day 963 lb/day 642 lb/day	2,890 lb/day 1,284 lb/day 963 lb/day	25 mg/l 15 mg/l 10 mg/l	40 mg/l 15 mg/l 10 mg/l	45 mg/l 20 mg/l 15 mg/l	1/Day 1/Day 1/Day	24-Hr. Comp. 24-Hr. Comp. 24-Hr. Comp.
CBOD ₅ - % Removal			85%			1/Month	Calculated
TSS (Nov 1-May 31) (June 1-June 30 & Oct. 1-Oct. 31) (July 1 - Sept. 30)	1,927 lb/day 1,605 lb/day 1,284 lb/day	3,211 lb/day 1,927 lb/day 1,927 lb/day	30 mg/l 25 mg/l 20 mg/l	45 mg/l 25 mg/l 20 mg/l	50 mg/l 30 mg/l 30 mg/l	1/Day 1/Day 1/Day	24-Hr. Comp. 24-Hr. Comp. 24-Hr. Comp.
TSS - % Removal			85%			1/Month	Calculated
Settleable Solids				--- ml/l	--- ml/l	1/Day	Grab

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

Influent sampling for TSS and CBOD₅ shall be conducted three (3) times/week and coordinated with effluent sampling to provide appropriate allowances for hydraulic detention (flow-through) time.

Sampling for TSS and CBOD₅ shall be performed five (5) times/week, Sunday - Saturday. One (1) of the TSS samples shall be collected on either Saturday or Sunday. Sampling for Flow and Settleable Solids shall be performed Sunday-Saturday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Concentration - specify units		Monitoring Requirement	
	Quantity - lbs./day	Average Monthly	Average Monthly	Average Weekly	Measurement Frequency	Sample Type
Fecal Coliform		200.MPN ¹ 100 ml	400.MPN ¹ 100 ml	400.MPN ¹ 100 ml	1/Day	Grab
Total Residual Chlorine (TRC)		20 ug/l ²		34 ug/l ²	Continuous	Recorder
pH		(6.0 SU)		(9.0 SU)	2/Day	Grab
Dissolved Oxygen (June 1 - Oct. 31)		(6.0 mg/l)			Continuous	Recorder

¹The Fecal Coliform samples are to be taken at the same time as one of the TRC samples of the first shift. The Geometric Mean shall be used to obtain the "weekly average" and the "monthly average."

²The use of a continuous TRC recorder after chlorination and prior to dechlorination is required to provide a record that proper disinfection was achieved at all times. Compliance with these limitations shall be determined by taking a minimum of three (3) grab samples over an eight (8) hour shift, with the first sample taken between 8:00 A.M. and 10:00 A.M., Monday - Friday (except holidays), and all subsequent samples equally spaced over the remainder of the shift. On Saturdays, Sundays, and Holidays at least two (2) grab samples are to be taken with a minimum of two (2) hours between grabs. The maximum daily and average monthly values are to be computed from the averaged grab sample results for each day. The following methods may be used to analyze the grab samples: (1) Low Level Amperometric Titration, Standard Methods (18th Edition) No. 4500-Cl E; (2) DPD Spectrophotometric, EPA No. 330.5 or Standard Methods (18th Edition) No. 4500-Cl G.

³Values in parentheses () are to be reported as Minimum/Maximum for the reporting period rather than Average Monthly/Maximum Daily.

Sampling for Fecal Coliform shall be conducted five (5) times/week, Sunday - Saturday. Sampling for pH shall be performed Sunday-Saturday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Concentration - specify units		Monitoring Requirement	
	Quantity - lbs. per day Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Measurement Frequency	Sample Type
Phosphorus, Total (Nov. 1 - March 31) (April 1 - Oct 31)			1.0 mg/l 0.1 mg/l		1/Week 1/Week	24-Hr. Comp. 24-Hr. Comp.
Orthophosphorus (Nov. 1 - March 31)			— mg/l		1/Week	24-Hr. Comp.
Ammonia, Total (as N) (Nov. 1 - April 30) (May 1 - May 31) (June 1 - Oct. 31)			14.2 mg/l 5.4 mg/l 2.0 mg/l	— mg/l — mg/l 2.0 mg/l	1/Week 1/Week 1/Week	24-Hr. Comp. 24-Hr. Comp. 24-Hr. Comp.
Nitrogen, Total (TKN + Nitrate + Nitrite, as N) (Nov. 1 - April 30) (May 1 - Oct. 31)			— mg/l 8.0 mg/l		2/Month 1/Week	Calculated Calculated

*See following page
(consent agreement to RIDEM)*

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

¹The permittee shall operate the treatment facility to reduce the discharge of total nitrogen, during the months of November through April, to the maximum extent possible using all available treatment equipment in place at the facility, except methanol addition.

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday at the following location: Outfall 001A.

ATTACHMENT A

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PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the date of execution of consent agreement RJA-402 and lasting through the completion of paragraph 10(d), the permittee is authorized to discharge from outfall serial number(s) 001A. Such discharges shall be monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Quantity - lbs. per day</u>		<u>Discharge Limitations</u>		<u>Monitoring Requirement</u>	
	<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Average Monthly</u>	<u>Concentration - specify units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Phosphorus, Total (April 1 - Oct 31)			1.0 mg/l	---	1/Week	24-Hr. Comp.
Nitrogen, Total (TKN + Nitrate + Nitrite, as N) (May 1 - Oct 31)			9.0 mg/l	---	1/Week	Calculated

Limits as set in consent agreement

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday at the following location: Outfall 001A.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Quantity - lbs. per day		Discharge Limitations		Concentration - specify units		Monitoring Requirement	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
TKN (Nov. 1 - April 30) (May 1 - Oct. 31)			--- mg/l --- mg/l				2/Month 1/Week	24-Hr. Comp. 24-Hr. Comp.
Nitrate, Total (as N) (Nov. 1 - April 30) (May 1 - Oct. 31)			--- mg/l --- mg/l				2/Month 1/Week	24-Hr. Comp. 24-Hr. Comp.
Nitrite, Total (as N) (Nov. 1 - April 30) (May 1 - Oct. 31)			--- mg/l --- mg/l				2/Month 1/Week	24-Hr. Comp. 24-Hr. Comp.

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday at the following location: Outfall 001A.

Attachment A

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Concentration - specify units		Monitoring Requirement		
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Lead, Total ¹			0.34 µg/l ³		8.7 µg/l	1/ Week	24-Hr. Comp.
Zinc, Total ¹			127 µg/l		187 µg/l	1/ Week	24-Hr. Comp.
Cyanide ¹			7.5 µg/l ³		32 µg/l	1/Quarter	Composite ²
Cadmium, Total ¹			1.0 µg/l		9.0 µg/l	1/ Week	24-Hr. Comp.
Copper, Total ¹			40 µg/l		95 µg/l	1/ Quarter	24-Hr. Comp.

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

¹ Samples shall be taken on the influent and effluent with appropriate allowances for hydraulic detention (flow-through) time.

² Compliance with these limitations shall be determined by taking three grab samples per day, equally spaced over one (1) day with a minimum of three hours between grabs, and preserved immediately upon collection. All three (3) samples shall be composited, then analyzed for available cyanide.

³ The limit at which compliance/noncompliance determinations will be based is the quantitation limit which is defined as 10.0 µg/l for Available Cyanide and 3.0 µg/l for lead. These values may be reduced by permit modification as EPA and the State approve more sensitive methods.

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday at the following location: Outfall 001A.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

6. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations			Monitoring Requirement	
	Quantity - lbs. per day Average Monthly	Maximum Daily	Average Monthly Concentration - specify units Average Weekly	Measurement Frequency	Sample Type
<i>Ceriodaphnia</i> sp. LC50 ¹				1/Quarter	24-Hr. Comp.
C-NOEC ³				1/Quarter	24-Hr. Comp.
<i>Pimephales promelas</i> LC50 ¹				1/Quarter	24-Hr. Comp.

¹LC₅₀ is defined as the concentration of wastewater that causes mortality to 50% of the test organisms.

²The limit of 100% or greater is defined as a sample which is composed of 100% effluent.

³Chronic - No Observed Effects Concentration (C-NOEC) is the concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle which causes no adverse effect on growth, survival or reproduction (see Section I.B.).

⁴The limit of 50% or greater is defined as a sample which is composed of 50% effluent.

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at Outfall 001A (final treated discharge after disinfection) in accordance with Part I.B. of the permit.

7. a. The pH of the effluent shall not be less than 6.0 nor greater than 9.0 standard units at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
- b. The discharge shall not cause visible 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 carbonaceous BOD. 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 permittee shall analyze its effluent annually for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III. The results of these analyses shall be submitted to the Department of Environmental Management by January 15th for the previous calendar year. The State user fee samples may be utilized provided that the sampling is coordinated in advance. All sampling and analysis shall be done in accordance with EPA Regulations, including 40 CFR, Part 136; grab and composite samples shall be taken as appropriate.
- g. This permit serves as the State's Water Quality Certificate for the discharges described herein.

B. BIOMONITORING REQUIREMENTS AND INTERPRETATION OF RESULTS

1. General

Beginning on the effective date of the permit, the permittee shall perform eight (8) chronic toxicity tests per year on samples collected from discharge Outfall 001A. The permittee shall conduct the tests during dry weather periods (no rain within forty-eight (48) hours prior to or during sampling unless approved by RIDEM) according to the following test frequency and protocols. Chronic and acute toxicity data shall be reported as outlined in Section B.9. The chronic fish and daphnid tests shall be used to calculate the acute LC₅₀ at the forty-eight (48) hour exposure interval. Test results will be interpreted by the State. The State may require additional screening, range finding, definitive acute or chronic bioassays as deemed necessary based on the results of the initial bioassays required herein. Indications of toxicity could result in requiring a Toxicity Reduction Evaluation (TRE) to investigate the causes and to identify corrective actions necessary to eliminate or reduce toxicity to an acceptable level.

2. Test Frequency

For four (4) sampling events, (one each calendar quarter) the permittee will conduct seven day chronic toxicity tests on the two (2) species listed below, for a total of eight (8) chronic toxicity tests per year. This requirement entails performing two-species testing as follows:

<u>Species</u>	<u>Test Type</u>	<u>Frequency</u>
	Two Species Test (Four Times Annually)	
Daphnid (<i>Ceriodaphnia</i> sp.)	Reproduction/Survival Acute Static (LC ₅₀)	Quarterly
Fathead Minnow (<i>Pimephales promelas</i>)	Growth/Survival	Quarterly

A sampling event is defined as three (3) 24-hour composites collected over the seven-day test period (see Section B.4).

3. Testing Methods

Chronic toxicity tests shall be conducted in accordance with protocols listed in the latest edition of Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA-600/4-89/011), incorporating any deviations from protocol listed herein, or additional methods if approved by the Director of RIDEM.

Acute definitive toxicity tests shall be conducted in accordance with protocols listed in the EPA document: Cornelius I. Weber, et. Al., 1991. Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Fourth Edition (or the most recent edition), Office of Research and Development Cincinnati, OH (EPA-600/4-90/027), incorporating any deviations from protocol listed herein, or additional methods if approved by the Director of RIDEM.

4. Sample Collection

For each sampling event a twenty-four- (24) hour flow proportioned composite effluent sample shall be collected at a location just after dechlorination during a dry weather period (no rain 48 hours prior to or during sampling unless approved by RIDEM). For each sampling event, the effluent samples shall be collected on days 0, 3 and 5 of the 7-day exposure period. The first sample is used for test initiation, Day 1, and for test solution renewal on Day 2. The second sample would be used for test solution renewal on Days 3 and 4. The third sample would be used for test solution renewal on Days 5, 6 and 7.

To eliminate the problem of potential rainfall interference during the five-day sampling period for the chronic tests, RIDEM suggests collecting enough sample on Day 0 to properly store and use one-third on both Days 3 and 5 if rain has occurred since Day 0. In addition, if no rainfall has occurred since Day 3, enough sample should also be collected on Day 3 to use for Day 5 if necessary.

In the laboratory, the initial sample (Day 0) will be split into two (2) subsamples, after thorough mixing, for the following:

- A: Chemical Analysis
- B: Chronic Toxicity Testing

Day 3 and 5 samples will be held until test completion. If either the Day 3 or 5 renewal sample is of sufficient potency to cause lethality to 50% or more test organisms in any of the dilutions for either species, then a chemical analysis shall be performed on the appropriate samples as well.

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

5. Dilution Water

Dilution water used for freshwater chronic toxicity analyses should be of sufficient quality to meet minimum acceptability of test results (see Sections B.6 and B.7). The Warwick WWTF is authorized to use laboratory water of known quality with a hardness and pH similar to that of the receiving water as an alternate dilution water source for the Fathead Minnow test. The DEM reserves the right to revoke this authorization at any time and may immediately require the permittee to use Pawtucket Reservoir water as a diluent as DEM deems necessary. If such a determination is made it will be provided in writing to the permittee. For the Daphnid, natural freshwater shall be used as the dilution water. This water shall be collected from Pawtucket Reservoir. If this natural freshwater diluent is found to be, or suspected to be toxic or unreliable, an alternate or laboratory source of water of known quality with a hardness and pH similar to that of the receiving water may be substituted AFTER RECEIVING WRITTEN APPROVAL FROM RIDEM.

6. Effluent Toxicity Test Conditions for the Daphnid
(*Ceriodaphnia* sp.) Survival and Reproduction Test¹

a.	Test Type	Static Renewal
b.	Temperature (C)	25° ± 1° C
c.	Light Quality	Ambient laboratory illumination
d.	Photoperiod	16 hours light, 8 hours dark
e.	Test Chamber Size	30 ml
f.	Test Solution Volume	15 ml
g.	Renewal of Test Solutions	Daily, using most recently collected sample.
h.	Age of Test Organisms	Less than twenty-four (24) hours and all released within an eight (8) hour period of each other.
i.	Number of Neonates Per Test Chamber	1
j.	Number of Replicate Test Chambers Per Treatment	10
k.	Number of Neonates Per Test Concentration	10
l.	Feeding Regime	Feed 0.1 ml each of YTC and algal suspension per exposure chamber daily.
m.	Aeration	None
n.	Dilution Water	Pawtucket Reservoir, see Section B.5
o.	Effluent Concentrations	Five (5) dilutions plus a control: 100%, 50%, 25%, 12.5%, 6.25% and 0% effluent.
p.	Test Duration	Until 60% of control females have three (3) broods (may require seven (7) days).
q.	End Points	Survival and reproduction.

- r. Test Acceptability 80% or greater survival and an average of fifteen (15) or more young per female in the control solutions. At least 60% of surviving females in controls should have produced third brood.
- s. Sampling Requirements For off-site tests, a minimum of three (3) samples are collected (i.e., Days 0, 3 & 5) and used for renewal (see Section B.4). Off-site test samples must be first used within forty-eight (48) hours of collection.
- t. Sample Volume Required Minimum 2 liters/day

¹Adapted from EPA/600/4-89/001

7. Test Conditions for the Fathead Minnow (*Pimephales promelas*)
Larval Survival and Growth Test¹

- a. Test Type Static Renewal
- b. Temperature $25^{\circ} \pm 1^{\circ} \text{C}$
- c. Light Quality Ambient laboratory illumination
- d. Photoperiod 16 hours light, 8 hours dark
- e. Test Chamber Size 250-1000 ml
- f. Test Solution Volume Minimum 200 ml/replicate
- g. Renewal of Test Concentrations Daily, using most recently collected sample.
- h. Age of Test Organisms Newly hatched larvae less than twenty-four (24) hours old.
- i. Number of Larvae/Test Chamber and Control 15 (Minimum of 10)
- j. Number of Replicate Chambers Per Concentration 4 (Minimum of 3)
- k. Number of Larvae/Concentration 60 (Minimum of 30)

- l. Feeding Regime

Feed 0.1 ml newly hatched brine shrimp nauplii twice daily, six (6) hours between feedings (at the beginning of the work day prior to renewal and at the end of the work day following renewal). Sufficient larvae are added to provide an excess.
- m. Cleaning

Siphon daily, immediately before test solution renewal.
- n. Aeration

None, unless DO concentration falls below 40% of saturation. Rate should be less than 100 bubbles/minute.
- o. Dilution Water

Pawtucket Reservoir water as discussed above.
- p. Effluent Concentrations

Five (5) effluent concentrations and a control: 100%, 50%, 25%, 12.5%, 6.25% and 0% effluent.
- q. Test Duration

Seven (7) Days
- r. End Points

Survival and growth (weight).
- s. Test Acceptability

80% or greater survival in controls: average dry weight of controls equals or exceeds 0.25 mg.
- t. Sampling Requirements

For off-site tests, a minimum of three (3) samples are collected (i.e., Days 0, 3 & 5) and used for renewal (see Section B.4).
- u. Sample Volume Required

Minimum 2.5 liters/day.

¹Adapted from EPA/600/4-89/001

8. Chemical Analysis

The following chemical analysis shall be performed for every two-specie sampling event.

<u>Parameter</u>	<u>Effluent</u>	<u>Saline Diluent</u>	<u>Detection Limit (mg/l)</u>
Hardness ¹	X	X	0.5
Alkalinity	X	X	2.0
pH	X	X	---
Specific Conductance	X	X	---
Total Solids and Suspended Solids	X	X	---
Ammonia	X	X	0.1
Total Organic Carbon	X		0.5
Cyanide	X		0.010

¹Method 2340B (Hardness by Calculation) from APHA (1985) Standard Methods for the Examination of Water and Wastewater. 18th Edition

During the first, second, and fourth calendar quarter bioassay sampling events the following chemical analyses shall be performed:

<u>Total Metals</u>	<u>Effluent</u>	<u>Diluent</u>	<u>Minimum Detection Limit (ug/l)</u>
Cu	X	X	5.0
Cd	X	X	1.0
Pb	X	X	1.0
CN, Available	X	X	10.0
Zn	X	X	5.0

The above metal analyses may be used to fulfill, in part or in whole, monthly monitoring requirements in the permit for these specific metals.

During the third calendar quarter bioassay sampling event, the final effluent sample collected during the same twenty-four (24) hour period as the bioassay sample, shall be analyzed for priority pollutants (as listed in Tables II and III of Appendix D of 40 CFR 122). The bioassay priority pollutant scan shall be a full scan.

In addition, the following chemical analyses shall be performed as part of each daily renewal procedures on each dilution and the controls.

<u>Parameter</u>	<u>Beginning of 24-Hour Exposure Period</u>	<u>End of 24-Hour Exposure Period</u>
Dissolved Oxygen	X	X
Temperature	X	
pH	X	
Specific Conductance	X	
Alkalinity	X ¹	
Hardness	X ¹	

¹These are performed on the 100% effluent and control samples only.

9. Toxicity Test Report Elements

A report of results will include the following:

- Description of sample collection procedures and site description.
- Names of individuals collecting and transporting samples, times, and dates of sample collection and analysis.
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests (quality assurance); light and temperature regime; dilution water description; other information on test conditions if different than procedures recommended.
- Raw data and laboratory sheets.
- Any other observations or test conditions affecting test outcome.
- Results of required chemical and physical analyses.

Toxicity test data shall include the following:

Chronic

- Daily survival of test organisms in the controls and all replicates in each dilution. Survival data should be analyzed by Fisher's Exact Test prior to analysis of reproduction data.
- Young per female for all replicates in each dilution for Ceriodahnia and weight for minnow larvae.
- Dissolved oxygen, pH, specific conductance and temperature for each dilution.

- Results of Dunnett's Procedure and/or other EPA recommended or approved methods for analyzing the data.
- C-NOEC = Chronic No Observed Effect Concentration
- LOEC = Lowest Observed Effect Concentration
- MATC = Maximum Allowable Toxicant Concentration

Acute - (These data points are to be obtained 48 hours into the chronic test).

- Survival for each concentration and replication at time 24 and 48 hours.
- Dissolved oxygen, pH and specific conductance for each concentration.
- LC₅₀ and 95% confidence limits using one of the following methods in order of preference: Probit, Trimmed Spearman Karber, Moving Average Angle, or the graphical method; printout or copy of these calculations. 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 (2) 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.

10. Reporting of Bioassay Testing

Bioassay Testing shall be reported as follows:

<u>Quarter Testing to be Performed</u>	<u>Report Due No Later Than</u>	<u>Results Submitted on DMR for</u>
January 1 - March 31	April 15	March
April 1 - June 30	July 15	June
July 1 - September 30	October 15	September
October 1 - December 31	January 15	December

Bioassay testing following the protocol described herein shall commence during the 4th quarter of 2008, and the first report shall be submitted to RIDEM no later than January 15, 2009.

A signed copy of these, and all other reports required herein, shall be submitted to:

Office of Water Resources
RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908-5767

C. INDUSTRIAL PRETREATMENT PROGRAM

1. Definitions

For the purpose of this permit, the following definitions apply.

- a. 40 CFR 403 and sections thereof refer to the General Pretreatment regulations, 40 CFR Part 403 as revised July 24, 1990.
- b. Categorical Pretreatment Standards mean any regulation containing pollutant discharge limits promulgated by the USEPA in accordance with section 307(b) & (c) of the Clean Water Act (33 USC 1251), as amended, which apply to a specific category of industrial users and which appears in 40 CFR Chapter 1, subchapter N.
- c. Pretreatment Standards include all specific prohibitions and prohibitive discharge limits established pursuant to 40 CFR 403.5, including but not limited to, local limits, and the Categorical Pretreatment Standards.
- d. Regulated Pollutants shall include those pollutants contained in applicable categorical standards and any other pollutants listed in the Pretreatment Standards which have reasonable potential to be present in an industrial user's effluent.

2. Implementation

The authority and procedures of the Industrial Pretreatment Program shall at all times be fully and effectively exercised and implemented, in compliance with the requirements of this permit and in accordance with the legal authorities, policies, procedures and financial provisions described in the permittee's approved Pretreatment Program and Sewer Use Ordinance, the Rhode Island Pretreatment Regulations and the General Pretreatment Regulations 40 CFR 403. The permittee shall maintain adequate resource levels to accomplish the objectives of the Pretreatment Program.

3. Local Limits

Pollutants introduced into the POTW by a non-domestic source (user) shall not: pass-through the POTW, interfere with the operation or performance of the works, contaminate sludge as to adversely effect disposal options, or adversely effect worker safety and health.

- a. The permittee shall at all times implement its approved Local Limits Monitoring Plan and enforce its approved Local Limits.
- b. At the time of renewal of this permit and in accordance with 40 CFR 122.21(j)(4) as revised July 24, 1990, the permittee shall submit to the DEM with its permit renewal application a written technical evaluation of the need to revise local limits. The evaluation shall be based, at a minimum, on information obtained during the implementation of the permittee's local limits monitoring plan and procedures required by Part I.C.3.a of this permit and current RIPDES permit discharge limits, sludge disposal criteria, secondary treatment inhibition, and worker health and safety criteria.

4. General

- a. The permittee shall 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 Pretreatment Standards. At a minimum, all significant industrial users shall be inspected and monitored for all regulated pollutants at the frequency established in the approved Industrial Pretreatment Program but in no case less than once per year (one (1) year being determined as the reporting year established in Part I.C.6 of this permit). In addition, these inspections, monitoring and surveillance activities must be conducted in accordance with EPA's Industrial User Inspection and Sampling Manual for POTW's, April 1994. All inspections, monitoring, and surveillance activities shall be performed, and have records maintained, with sufficient care to produce evidence admissible in enforcement proceedings or judicial actions. The permittee shall evaluate, at least every two years, unless updated 40 CFR 403 streamlining provisions have been specifically adopted, whether each SIU requires a slug control plan. If a slug control plan is required, it must include, at a minimum, those elements contained in 40 CFR 403.8(f)(2)(v).
- b. The permittee shall reissue all necessary Industrial User (IU) control mechanisms within thirty (30) days of their expiration date. The permittee shall issue, within sixty (60) days after the determination that an IU is a Significant Industrial User (SIU), all SIU control mechanisms. All SIU control mechanisms must contain, at a minimum, those conditions stated in 40 CFR 403.8(f)(1)(iii). All control mechanisms must be mailed via Certified Mail, Return Receipt Requested. A complete bound copy of the control mechanism with the appropriate receipt must be kept as part of the Industrial User's permanent file. In addition, the permittee must develop a fact sheet describing the basis for the SIU's permit and retain this fact sheet as part of the SIU's permanent file.
- c. The permittee must identify each instance of noncompliance with any pretreatment standard and/or requirement and take a formal documented action for each instance of noncompliance. Copies of all such documentation must be maintained in the Industrial User's permanent file.
- d. The permittee shall prohibit Industrial Users from the dilution of a discharge as a substitute for adequate treatment in accordance with 40 CFR 403.6(d).
- e. The permittee shall comply with the procedures of 40 CFR 403.18 for instituting any modifications of the permittee's approved Pretreatment Program. Significant changes in the operation of a POTW's Approved Pretreatment Program must be submitted and approved following the procedures outlined in 40 CFR 403.18(b) and 403.9(b). However, the endorsement of local officials responsible for supervising and/or funding the pretreatment program required by 403.9(b)(2) will not be required until DEM completes a preliminary review of the submission. The DEM will evaluate and review the permittee's initial proposal for a modification and provide written notification either granting preliminary approval of the proposed modifications or stating the deficiencies contained therein. DEM's written notification will also include a determination whether the submission constitutes a substantial or non-substantial program modification as defined by 40 CFR 403.18. Should DEM determine that a deficiency exists in the proposed modification, the permittee shall submit to DEM, within thirty (30) days of the receipt of said notice, a revised submission consistent with DEM's notice of deficiency.

Pretreatment program modifications which the permittee considers Non-substantial, shall be deemed to be approved within (90) days after submission of the request for modification, unless DEM determines that the modification is in fact a substantial modification or notifies the permittee of deficiencies. Upon receipt of notification that DEM has determined the modification is substantial, the permittee shall initiate the procedures and comply with the deadlines for substantial modifications, which are outlined below.

For substantial modifications, the permittee shall, within sixty (60) days (unless a longer time frame is granted) of the receipt of DEM's preliminary approval of the proposed modification, submit a statement (as required by 403.9(b)(2)) that any local public notification/participation procedures required by local law have been completed and upon approval by RIDEM, the local officials will endorse and/or approve the modification.

Within thirty (30) days of DEM's final approval of the proposed modification(s), the permittee shall implement the modification. Upon final approval by the DEM and adoption by the permittee, this modification(s) shall become part of the approved pretreatment program and shall be incorporated into this permit in accordance with 40 CFR 122.63(g).

- f. All sampling and analysis required of the permittee, or by the permittee of any Industrial User, must be performed in accordance with the techniques described in 40 CFR 136.
- g. For those Industrial Users with discharges that are not subject to Categorical Pretreatment Standards, the permittee shall require appropriate reporting in accordance with 40 CFR 403.12(h).
- h. The permittee shall, in accordance with 40 CFR 403.12(f), require all Industrial Users to immediately notify the permittee of all discharges by the Industrial User that could cause problems to the POTW, including slug loadings, as defined by 40 CFR 403.5(b).
- i. The permittee shall require all Industrial Users to notify the permittee of substantial changes in discharge as specified in 40 CFR 403.12(j).
- j. The permittee shall require New Sources to install and have in operation all pollution control equipment required to meet applicable Pretreatment Standards before beginning to discharge. In addition, the permittee shall require New Sources to meet all applicable Pretreatment Standards within the shortest feasible time which shall not exceed ninety (90) days in accordance with 40 CFR 403.6(b).
- k. The permittee shall require all Industrial Users who are required to sample their effluent and report the results of analysis to the POTW to comply with signatory requirements contained in 40 CFR 403.12(l) when submitting such reports.
- l. The permittee shall determine, based on the criteria set forth in 40 CFR 403.8(f)(2)(vii), using the EPA method of "rolling quarters", the compliance status of each Industrial User. Any Industrial User determined to meet Significant Non-Compliance (SNC) criteria shall be included in an annual public notification as specified in 40 CFR 403.8(f)(2)(vii).

- m. The permittee shall require Industrial Users to comply with the notification and certification requirements of 40 CFR 403.12(p)(1), (3) and (4) pertaining to the discharge of substances to the POTW, which if disposed of otherwise, would be a hazardous waste under 40 CFR Part 261.
- n. The permittee shall continue to designate, as SIUs, those Industrial Users (IUs) which meet the definition contained in the permittee's sewer use ordinance.

The permittee shall notify each newly designated SIU of its classification as an SIU within thirty (30) days of identification and shall inform the SIU of the requirements of an SIU contained in 40 CFR 403.12.

5. Categorical Industrial Users (CIUs)

- a. The permittee shall require Industrial Users to comply with applicable Categorical Pretreatment Standards in addition to all applicable Pretreatment Standards and Requirements. The permittee shall require of all Categorical Industrial Users (CIUs), all reports on compliance with applicable Categorical Pretreatment Standards and Categorical Pretreatment Standard deadlines as specified in and in accordance with Sections (b), (d), (e) and (g) of 40 CFR 403.12. In addition, the permittee shall require Categorical Industrial Users to comply with the report signatory requirements contained in 40 CFR 403.12(1) when submitting such reports.
- b. If the permittee applies the Combined Wastestream Formula (CWF) to develop fixed alternative discharge limits of Categorical Pretreatment Standards, the application of the CWF and the enforcement of the resulting limits must comply with 40 CFR 403.6(e). The permittee must document all calculations within the control mechanism fact sheet and the resulting limits within the CIU's control mechanism. The permittee must ensure that the most stringent limit is applied to the CIU's effluent, at the end-of-pipe, based upon a comparison of the resulting CWF limits and the permittee's local limits.
- c. If the permittee has or obtains the authority to apply and enforce equivalent mass-per-day and/or concentration limitations of production-based Categorical Pretreatment Standards, then the permittee shall calculate and enforce the limits in accordance with 40 CFR 403.6(c). The permittee must document all calculations within the control mechanism fact sheet and the resulting limits within the CIU's control mechanism.

6. Annual Report

The annual report for the permittee's program shall contain information pertaining to the reporting year which shall extend from October 1st through September 30th and shall be submitted to the DEM by November 15th. Each item below must be addressed separately and any items, which are not applicable, must be so indicated. If any item is deemed not applicable a brief explanation must be provided. The annual report shall include the following information pertaining to the reporting year:

- a. A listing of Industrial Users that complies with requirements stated in 40 CFR 403.12(i)(1). The list shall identify all Categorical Industrial Users, Significant Industrial Users and any other categories of users established by the permittee;

- b. A summary list, including dates, of any notifications received by the permittee of any substantial change in the volume or character of pollutants being introduced into the POTW by new or existing IUs. If applicable, an evaluation of the quality and quantity of influent introduced into the POTW and any anticipated impact due to the changed discharge on the quantity or quality of effluent to be discharged from the POTW shall be included;
- c. A summary list of the Compliance status of each Industrial User (IU) as of the end of last quarter covered by the annual report. The list shall identify all IUs in non-compliance, the pretreatment program requirement that the IU failed to meet, and the type, and date of the enforcement action initiated by the permittee in response to the violation. If applicable, the list shall also contain the date which IUs in non-compliance returned to compliance, a description of corrective actions ordered, and the penalties levied.
- d. A list of industries which were determined, in accordance with Part I.C.4 (I) of this permit, to be in significant non-compliance required to be published in a local newspaper and a copy of an affidavit of publication, from the newspaper, averring that the names of these violators has been published;
- e. A summary list of inspection and monitoring activity performed by the permittee, including;
 - Significant industrial users inspected by the POTW (include inspection dates for each Industrial user);
 - Significant industrial users sampled by the POTW (include sampling dates and dates of analysis, for each industrial user);
- f. A summary list of permit issuance/reissuance activities including the name of the Industrial user, expiration date of previous permit, issuance date of new permit, and a brief description of any changes to the permit;
- g. A list including the report/notification type, due date, and receipt date for each report/notification required by 40 CFR 403.12.
- h. A summary of public participation efforts including meetings and workshops held with the public and/or industry and notices/newsletters/bulletins published and/or distributed;
- i. A program evaluation in terms of program effectiveness, local limits application and resources that addresses but is not limited to:
 - A description of actions being taken to reduce the incidence of SNC by Industrial Users;
 - Effectiveness of enforcement response program;
 - Sufficiency of funding and staffing;
 - Sufficiency of the SUO, Rules and Regulations and/or statutory authority;
- j. An evaluation of recent/proposed program modifications, both substantial and non-substantial, in terms of the modification type, implementation and actual/expected effect (note proposed modifications must be submitted under separate cover along with the information required by 40 CFR 403.18);

- k. A detailed description of all interference and pass-through that occurred during the past year and, if applicable;
 - A thorough description of all investigations into interference and pass-through during the past year;
 - A description of the monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying pollutants analyzed and frequencies;
- l. A summary of the average concentration, maximum concentration, minimum concentration, and number of data points used for pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus the maximum allowable headworks loadings contained in the approved local limits evaluation and effluent sampling results versus water quality standards. Such a comparison shall be based on the analytical results required in Parts I.A and I.C. of this permit and any additional sampling data available to the permittee; and
- m. A completed Annual Pretreatment Report Summary Sheet (Attachment A-1).

7. Enforcement Response Plan (ERP)

The permittee has an approved ERP that meets the requirements of 40 CFR 403.8(f)(5). The permittee shall continue to implement its approved ERP at all times.

8. Sewer Use Ordinance (SUO)

The permittee has an approved SUO. The permittee shall continue to implement its approved SUO at all times.

9. Interjurisdictional Agreement

Within sixty (60) days of the effective date of the permit, the permittee shall submit to the DEM, an attorney's statement which contains an evaluation, by the Town Solicitor or a public official acting in a comparable capacity, of any interjurisdictional agreements between the City of Warwick and contributing jurisdictions. The analysis shall evaluate the adequacy of each agreement in terms of, but not limited to, legal authority provided for: the consistency of the contributing jurisdictions' Sewer Use Ordinance and adopted local limits with respect to those of Warwick; enforcement actions by Warwick for violations of the Warwick Pretreatment Program in contributing jurisdictions; permitting, inspecting, and sampling of Industrial Users located in each contributing jurisdiction; Warwick's right to enter facilities located in contributing jurisdictions; Warwick's authority to access all records compiled by each contributing jurisdiction in relation to pretreatment program activities; and remedies for breach of contract. In addition, the statement must evaluate the present status of the implementation of the agreement by contributing jurisdictions.

If any interjurisdictional agreement is determined deficient, the statement shall contain a proposed agreement which provides adequate legal authority. A proposed compliance schedule for the contributing jurisdiction(s) shall also be submitted with the statement for implementing requirements of the agreement with Warwick which have yet to be fulfilled.

ATTACHMENT A-1

Annual Pretreatment Report Summary Sheet

POTW Name:

NPDES Permit #:

Pretreatment Report Period Start Date:

Pretreatment Report Period End Date:

of Significant Industrial Users (SIUs):

of SIUs Without Control Mechanisms:

of SIUs not Inspected:

of SIUs not Sampled:

of SIUs in Significant Noncompliance (SNC) with Pretreatment Standards:

of SIUs in SNC with Reporting Requirements:

of SIUs in SNC with Pretreatment Compliance Schedule:

of SIUs in SNC Published in Newspaper:

of SIUs with Compliance Schedules:

of Violation Notices Issued to SIUs:

of Administrative Orders Issued to SIUs:

of Civil Suits Filed Against SIUs:

of Criminal Suits Filed Against SIUs:

of Categorical Industrial Users (CIUs):

of CIUs in SNC:

ATTACHMENT A-1

Annual Pretreatment Report Summary Sheet

Penalties

Total Dollar Amount of Penalties Collected

of IUs from which Penalties have been collected:

Local Limits

Date of Most Recent Technical Evaluation of Local Limits:

Date of Most Recent Adoption of Technically Based Local Limits:

Pollutant	Limit (mg/l)	MAHL (lb/day)

Upon approval of the DEM, the proposed agreement and compliance schedule shall be adopted within 180 days.

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Infiltration/Inflow

The permittee shall minimize infiltration/inflow to the sewer system. A summary report of all actions taken to minimize infiltration/inflow during the previous two (2) years shall be submitted to RIDEM, Office of Water Resources, by the 15th day of January of every other year. The first report is due January 15, 2009.

E. SLUDGE

The permittee shall conform and adhere to all conditions, practices and regulations as contained in the State of Rhode Island Rules and Regulations for the Treatment, Disposal, Utilization and Transportation of Sewage Sludge. The permittee shall comply with its RIDEM Order of Approval for the disposal of sludge.

F. DETECTION LIMITS

The permittee shall assure that all wastewater testing required by this permit, is performed in conformance with the method detection limits listed below (the EPA method is noted for reference, other EPA approved methods found in 40 CFR Part 136 may be utilized). All sludge testing required by this permit shall be in conformance with the method detection limits found in 40 CFR 503.8. In accordance with 40 CFR Part 136, EPA approved analysis techniques, quality assurance procedures and quality control procedures shall be followed for all reports required to be submitted under the RIPDES program. These procedures are described in "Methods for the Determination of Metals in Environmental Samples" (EPA/600/4-91/010) and "Methods for Chemical Analysis of Water and Wastes" (EPA/600/4-79/020).

The report entitled "Methods for the Determination of Metals in Environmental Samples" includes a test which must be performed in order to determine if matrix interferences are present, and a series of tests to enable reporting of sample results when interferences are identified. Each step of the series of tests becomes increasingly complex, concluding with the complete Method of Standard Additions analysis. The analysis need not continue once a result which meets the applicable quality control requirements has been obtained. Documentation of all steps conducted to identify and account for matrix interferences shall be submitted along with the monitoring reports.

If, after conducting the complete Method of Standard Additions analysis, the laboratory is unable to determine a valid result, the laboratory shall report "could not be analyzed". Documentation supporting this claim shall be submitted along with the monitoring report. If valid analytical results are repeatedly unobtainable, DEM may require that the permittee determine a method detection limit (MDL) for their effluent or sludge as outlined in 40 CFR Part 136, Appendix B.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", less than the reagent water MDL, or less than an effluent or sludge specific MDL. The effluent or sludge specific MDL must be calculated using the methods outlined in 40 CFR Part 136, Appendix B. Samples which have been diluted to ensure that the sample concentration will be within the linear dynamic range shall not be diluted to the extent that the analyte is not detected. If this should occur the analysis shall be repeated using a lower degree of dilution.

When calculating sample averages for reporting on discharge monitoring reports (DMRs):

1. "could not be analyzed" data shall be excluded, and shall not be considered as failure to comply with the permit sampling requirements;
2. results reported as less than the MDL shall be included as values equal to the MDL, and the average shall be reported as "less than" the calculated value.

For compliance purposes, DEM will replace all data reported as less than the MDL with zeroes, provided that DEM determines that all appropriate EPA approved methods were followed. If the re-calculated average exceeds the permit limitation it will be considered a violation.

OTHER TOXIC POLLUTANTS
Updated: December 11, 1998

	MDL ug/l (ppb)
Antimony, Total	3.0 - EPA Method 204.2 ¹
Arsenic, Total	5.0 - EPA Method 200.9 ¹
Beryllium, Total	0.2 - Standard Methods 18 th Ed. 3113B
Cadmium, Total	1.0 - EPA Method 200.9 ¹
Chromium, Total	5.0 - Standard Methods 18 th Ed. 3113B
Chromium, Hexavalent***	50.0 - Standard Methods 16 th Ed., 312B
Copper, Total	20.0 - EPA Method 200.7 ¹
Lead, Total	1.0 - EPA Method 239.2 ¹
Mercury, Total	0.5 - EPA Method 245.1 ¹
Nickel, Total	20.0 - EPA Method 200.7 ¹
Selenium, Total	5.0 - EPA Method 200.9 ¹
Silver, Total	1.0 - Standard Methods 18 th Ed. 3113B
Thallium, Total	1.0 - EPA Method 200.9 ¹
Zinc, Total	20.0 - EPA Method 200.7 ¹
Asbestos	**
Cyanide, Available	10.0
Phenols, Total***	50.0 - EPA Method 420.2 ¹
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0 - EPA Method 524.2 ¹

* Polynuclear Aromatic Hydrocarbons

** No Rhode Island Department of Environmental Management (RIDEM) MDL

*** Not a priority pollutant as designated in the 1997 Water Quality Regulations (Table 5)

NOTE:

All MDLs have been established in accordance with the definition of "Detection Limits" in the RIDEM Water Quality Regulations for Water Pollution Control. Unless otherwise noted the MDLs have been determined in reagent water by the Rhode Island Department of Health, Division of Laboratories. The MDL for a given analyte may vary with the type of sample. MDLs which are determined in reagent water may be lower than those determined in wastewater due to fewer matrix interferences. Wastewater is variable in composition and may therefore contain substances (interferents) that could affect MDLs for some analytes of interest. Variability in instrument performance can also lead to inconsistencies in determinations of MDLs.

¹Method detection limits for these metals analyses were determined by the USEPA. They are not contrived values and should be obtainable with any satisfactory atomic absorption spectrophotometer. To insure valid data the analyst must analyze for matrix interference effects and if detected treat accordingly using either successive dilution matrix modification or method of Standard Additions (Methods for Chemical Analysis of Water and Wastes EPA-600/4-79/020).

To help verify the absence of matrix or chemical interference the analyst is required to complete specific quality control procedures. For the metals analyses listed above the analyst must withdraw from the sample two equal aliquots; to one aliquot add a known amount of analyte, and then dilute both to the same volume and analyze. The unspiked aliquot multiplied by the dilution factor should be compared to the original. Agreement of the results within 10% indicates the absence of interference. Comparison of the actual signal from the spiked aliquot to the expected response from the analyte in an aqueous standard should help confirm the finding from the dilution analysis. (Methods for Chemical Analysis of Water and Wastes EPA-600/4-79/020).

For Methods 624 and 625 the laboratory must on an ongoing basis, spike at least 5% of the samples from each sample site being monitored. For laboratories analyzing 1 to 20 samples per month, at least one spiked sample per month is required. The spike should be at the discharge permit limit or 1 to 5 times higher than the background concentration determined in Section 8.3.2, whichever concentration would be larger. (40 CFR Part 136 Appendix B Method 624 and 625 subparts 8.3.1 and 8.3.11).

G. MONITORING AND REPORTING

1. Monitoring

All monitoring required by this permit shall be done in accordance with sampling and analytical testing procedures specified in Federal Regulations (40 CFR Part 136).

2. Reporting

Monitoring results obtained during the previous month shall be summarized and reported on Discharge Monitoring Report (DMR) Forms, postmarked no later than the 15th day of the month following the completed reporting period. A copy of the analytical laboratory report, specifying analytical methods used, shall be included with each report submission. Signed copies of these, and all other reports required herein, shall be submitted to:

Office of Water Resources
RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908-5767

FACT SHEET

RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PERMIT TO DISCHARGE
TO WATERS OF THE STATE

RIPDES PERMIT NO. RI0100234

NAME AND ADDRESS OF APPLICANT:

The City of Warwick

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Warwick Wastewater Treatment Facility
125 Arthur W. Devine Blvd.
Warwick, RI

RECEIVING WATER: **Pawtuxet River**

CLASSIFICATION: **B1**

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

The above-named applicant has applied to the Rhode Island Department of Environmental Management (DEM) for reissuance of a RIPDES Permit to discharge into the designated receiving water. The facility is engaged in the treatment of domestic and industrial sewage. The discharge is from the treatment of industrial and municipal wastewater.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based on DMR data from December 2002 through November 2007 is shown on Attachment A-2.

III. Permit Limitations and Conditions

The final effluent limitations and monitoring requirements may be found in the draft permit. It is not expected that the facility will be able to comply with the new total Phosphorus limits. Therefore, the DEM anticipates entering into a consent agreement with the city that will establish an enforceable compliance schedule for the facility to attain compliance with the total Phosphorus limits.

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Warwick Sewer Authority owns and operates the Wastewater Treatment Facility located on 125 Arthur W. Devine Blvd. in Warwick, Rhode Island. The discharge to the Pawtuxet River consists of treated sanitary sewage contributed by the municipality of Warwick. Treatment consists of: Influent screening, vortex grit removal, primary clarification, fine bubble aeration activated sludge and biological nutrient removal, secondary clarification and chlorination/dechlorination.

The requirements set forth in this permit are from the State's Water Quality Regulations and the State's Regulations for the Rhode Island Pollutant Discharge Elimination System, both filed pursuant to RIGL Chapter 46-12, as amended. RIDEM's primary authority over the permit comes from EPA's delegation of the program in September 1984 under the Federal Clean Water Act (CWA).

Development of Rhode Island Pollutant Discharge Elimination System (RIPDES) permit limitations is a multi-step process consisting of the following steps: calculating allowable water quality-based discharge levels based on instream criteria, background data and available dilution; identifying any technology-based limits that apply to the facility; assigning appropriate Best Professional Judgment (BPJ) limits; setting the most stringent of these limits as the final allowable discharge levels; comparing existing discharge concentrations to the new allowable discharge levels; and evaluating the ability of the facility to meet the final permit effluent limits. A brief description of these steps is presented below. For a more detailed presentation, the "Warwick Wastewater Treatment Facility Permit Development Document" is available upon request.

The "Average Monthly" and "Average Weekly" TSS limitations plus the pH limitations are based upon the secondary treatment requirements of Section 301 (b)(1)(B) of the CWA as defined in 40 CFR 133.102 (a) - (c). The "Maximum Daily" TSS limits and the fecal coliform limits are based on Rhode Island requirements for Publicly Owned Treatment Works (POTW's) under Section 401 (a)(1) of the CWA and in 40 CFR 124.53 and 124.56. The "Average Monthly", "Average Weekly", and "Daily Maximum" CBOD₅ and TSS limitations, for June through October, have been reduced consistent with the reductions which will be experienced with nutrient removal. The "Percent Removal" requirements are in accordance with 40 CFR 133.103. Settleable Solids monitoring has been included as a process-control parameter that can aid in the assessment of the operation of the plant but need not have an effluent limit.

In order to evaluate the need for water quality based limits, it is necessary to determine the dilution which occurs as a result of the discharge (the dilution factor). Using the 7Q10 river flow (for aquatic life criteria), harmonic mean flow (for human health criteria of carcinogens), and 30Q5 flow (for human health criteria of non-carcinogens) the appropriate dilution factors were determined through a Wasteload Allocation. Using the facility's design flow of 11.91 cfs, water quality dilution factors of 1.8 for acute and chronic criteria, a carcinogenic human health dilution factor of 3.6, and a non-carcinogenic human health dilution factor of 2.1 were calculated. An exception to these dilution factors was made for Ammonia limitations. Since Ammonia criteria vary seasonally and Ammonia removal is strongly dependant on temperature (nitrification rate decreases as temperature decreases) and since Ammonia does not bioaccumulate or accumulate in sediment, seasonal dilution factors were used to determine the appropriate Ammonia limitations. A winter 7Q10 flow was used to yield a dilution factor of 2.2 for the period from November 1 through April 30 and a summer 7Q10 flow was used to give a dilution factor of 1.8 for the period from May 1 through October 31. The Qual 2E model was used to develop discharge limits for BOD, Ammonia and Dissolved Oxygen for June - October. To determine the appropriate metals limits, the DEM used and iterative approach and ran the PAWTOXIC model to develop discharge limits for Nickel, Copper, Lead, Cadmium, Chromium, and Silver.

For those metals criteria based on hardness, a lognormal-lognormal relationship was developed (in a manner similar to that which was used to develop the previous permit's limits) between flow and hardness from data collected at the Washington US Geological Survey gauging station.

Based on this relationship and the 7Q10 flow, a hardness of 63.2 mg/l was used to determine the appropriate metals criteria. In addition, since Ammonia criteria are dependent on Temperature and pH, the DEM determined the applicable Ammonia criteria associated with the upper 90% pH and Temperature values for each month. DEM then used the minimum monthly criteria for each season (November 1 – April 30 & May 1 – October 31) when determining the Ammonia limitations. Appendix B of the Rhode Island Water Quality Regulations allows for the use of site specific criteria for the segments of the Pawtuxet River classified as B1, which includes the segment of the Pawtuxet River into which the WWTF discharges. Since the use of the site specific criteria was already adopted as part of the Water Quality Regulations, these criteria were used to determine the WWTF's permit limits. Additional documentation is available upon request that details the specific differences between the previous (1999) Wasteload Allocation and the new (2006) Wasteload Allocation (e.g., WWTF flows, etc.).

Based on the above dilution factors and the freshwater aquatic life and non-Class A human health criteria, from the Rhode Island Water Quality, allowable discharge concentrations were established using 80% allocation when no background data was available and 90% allocation when background data was available. 100% allocation of total residual chlorine (TRC) was used due to the fact that Chlorine is not expected to be found in ambient water and it is a non-conservative pollutant.

In accordance with 40 CFR Part 122.4(d)(1)(iii), it is only necessary to establish limitations for those pollutants in the discharge which have the reasonable potential to cause or contribute to the exceedance of the in-stream criteria. In order to evaluate the need for permit limitations, the permit limits were compared to the Discharge Monitoring Report (DMR) data and the State User Fee Program data. An assessment was made to determine if limits were necessary, using the data collected during the previous five (5) years. Water quality limitations have been deemed necessary for Ammonia, Cyanide, Cadmium, Chlorine, Lead, Copper and Zinc.

The DEM has evaluated implementation costs, analysis of the performance of available technology, and estimates of water quality improvement to develop a phased plan for implementation of WWTF improvements which maximizes the DO levels relative to implementation cost. Nine (9) different cases, representing various combinations of nitrogen reduction were examined at WWTFs located in Massachusetts and Rhode Island. Estimates of capital costs to modify existing facilities to achieve the target levels on a seasonal basis were developed. These costs included allowances for planning, design, construction and administration and must be considered Order-of-Magnitude estimates, since specific facility characteristics were not evaluated. This analysis has been added to the document *Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers*, which is available upon request.

Based on this evaluation of the sources of excessive nitrogen levels in the rivers and the capabilities of existing treatment processes, the DEM has determined that it would be appropriate to establish seasonal (May – October) limits for total nitrogen of 8.0 mg/l to the Warwick WWTF. These limits, in combination with the reductions being assigned to the other WWTFs, will achieve a 50% reduction from the 1995-1996 Rhode Island WWTF loading, consistent with the recommendations from The Governor's Narragansett Bay and Watershed Planning Commission. In addition to adding a seasonal total nitrogen limit of 8.0 mg/l, this permit also requires that the permittee operate the treatment facility to reduce the discharge of total nitrogen, during the months of November through March, to the maximum extent possible using all available treatment equipment in place at the facility. Assigning seasonal total nitrogen limits and requiring that the WWTF be operated year round in a manner to reduce the discharge of nitrogen to the maximum extent possible will result in substantial progress towards the mitigation of hypoxic/anoxic events and meeting water quality standards. The analysis contained in *Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers*, indicates that the contribution of the Massachusetts WWTFs is significant and DEM is working with the MADEP and the EPA to pursue appropriate nitrogen reductions.

An integral component of this phased implementation approach is monitoring and assessment of water quality changes to determine if additional reductions are necessary to meet applicable standards. DEM, in partnership with other agencies, will monitor the water quality of the

Providence and Seekonk Rivers. This monitoring will provide the data necessary to evaluate compliance with water quality standards, particularly temporal detail needed to evaluate compliance with EPA's DO guidelines.

The Environmental Protection Agency Region 10's April 2007 document titled "Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus" (Document #: EPA 910-R-07-002) indicates that total phosphorus levels of 0.1 mg/l are both technically and reasonably achievable using existing treatment technologies. Specifically, the report indicated that "chemical addition to wastewater with aluminum- or iron-based coagulants followed by tertiary filtration can reduce total phosphorus concentrations in the final effluent to very low levels...consistently near or below 0.01 mg/l" and that the "cost of applying tertiary treatment for phosphorus removal is affordable, when measured by the monthly residential sewer fees charged...from as low as \$18 to the highest fee of \$46." Based on the information presented in this report, the DEM has made a determination that a total phosphorus limit of 0.1 mg/l is "technically and reasonably feasible". In addition, sampling conducted by the DEM in October 2007 showed that, despite the WWTF's upgrades to comply with the current total phosphorus limit of 1.0 mg/l, the in-stream total phosphorus levels exceeded the EPA's Gold Book criteria for total phosphorus in rivers of 0.1 mg/l. In order to achieve an in-stream concentration that is consistent with the Gold Book criteria, the phosphorus load would have to be reduced by 56%. By assigning total phosphorus permit limits of 0.1 mg/l, the desired phosphorus load reduction will be achieved even when the WWTFs are scaled up to permitted design flows. Therefore, the DEM has determined that the 0.1 mg/l total phosphorus limit is appropriate and has assigned this limit to the WWTF. Additional information supporting the 0.1 mg/l total phosphorus limit can be found in the permit development document.

The total phosphorus limit (0.1 mg/l) is a seasonal limit in effect from April 1 through October 31. The maximum daily value must also be reported for each month. In addition to the seasonal total phosphorus limit of 0.1 mg/l, the draft permit contains a total phosphorus monthly average limit of 1.0 mg/l during November 1 through March 31. The winter period limitation on phosphorus is necessary to ensure that the higher levels of phosphorus discharged in the winter period do not result in the accumulation of phosphorus in the sediments. The limitation assumes that the dissolved fraction of the total phosphorus will pass through the system given the short detention time of the Pawtuxet River and the lack of plant growth during the winter period. A monitoring requirement for orthophosphorus has been included for the winter period in order to determine the particulate fraction.

DEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. Evaluation of the data collected for biotoxicity revealed that the effluent samples had a few occurrences of unacceptable acute toxicity values for the Fathead minnow test. Past bioassay monitoring data for the Daphnids has shown isolated occurrences of toxicity. Based upon past toxicity results and available dilution, the draft permit requires an $LC_{50} \geq 100\%$ effluent limit for quarterly acute tests. Chronic toxicity testing for Daphnids is required based on the chronic dilution factor of 1.8 being lower than the 10 dilution threshold; thereby requiring a chronic toxicity limit of $\geq 50\%$.

The actual data can be found in Attachment A-2. The biomonitoring requirements are set forth in 40 CFR 131.11 and in the State's Water Quality Regulations to assure control of toxicity in the effluent. If continued toxicity is demonstrated, then toxicity identification and reduction will be required.

The effluent monitoring requirements have been specified in accordance with RIPDES regulations as well as 40 CFR 122.41 (j), 122.44 (l), and 122.48 to yield data representative of the discharge.

The required priority pollutant scans are specified in the State User Fee program.

The permit contains requirements for the permittee to comply with the State's Sludge Regulations and its RIDEM Order of Approval for sludge disposal in accordance with the requirements of Section 405(d) of the Clean Water Act (CWA). Permits must contain sludge conditions requiring compliance with limits, State laws, and applicable regulations as per Section 405(d) of the CWA and

40 CFR 503. The RIDEM Sludge Order of Approval sets forth the conditions to ensure this compliance.

The permit contains a reporting requirement for a local program to regulate industrial discharges to the sewer system (referred to as pretreatment program). This program is being required under authority of Section 402 (b)(8) of the CWA and 40 CFR 122.44 (j) and 403.8 because the City receives significant discharges of industrial wastewater.

The Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation policy. A development document, which outlines the permit development in greater detail, is available upon request.

The remaining general and specific conditions of the permit are based on the RIPDES regulations as well as 40 CFR Parts 122 through 125 and consist primarily of management requirements common to all permits.

V. **Comment Period, Hearing Requests, and Procedures for Final Decisions**

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 Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. In accordance with Chapter 46-17.4 of Rhode Island General Laws, a public hearing will be held prior to the close of the public comment period. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

Following the close of the comment period, and after a public hearing, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments, provided oral testimony, or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of Rule 49 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

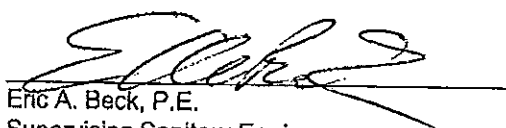
VI. **DEM Contact**

Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Joseph Camara, Sanitary Engineer
Department of Environmental Management/Office of Water Resources
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 ext. 7640
e-mail: joseph.camara@dem.ri.gov

Date

2/13/00


Eric A. Beck, P.E.
Supervising Sanitary Engineer
RIPDES Program
Office of Water Resources
Department of Environmental Management

ATTACHMENT A-2

DESCRIPTION OF DISCHARGE: Secondary treated domestic and industrial wastewater.
DISCHARGE: 001A - Secondary Treatment Discharge

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE:

PARAMETER	AVERAGE ¹	MAXIMUM ²
FLOW (MGD)	4.90 MGD	18.76 MGD
BOD ₅ (Nov- May)	10.08 mg/l	22.66 mg/l
BOD ₅ % Removal	97.78	
CBOD (June -Oct)	4.91 mg/l	11.59 mg/l
TSS (Nov -May)	7.52 mg/l	15.75 mg/l
TSS % Removal	96.97	
Fecal Coliform	15.57 MPN/100 ml	
pH	6.62 S.U.(Minimum)	7.29 S.U.(Maximum)
Chlorine Residual	12.82 ug/l	22.00 ug/l
Cyanide	10.00 ug/l	10.00 ug/l
Cadmium	0.46 ug/l	0.52 ug/l
Lead	1.93 ug/l	2.31 ug/l
Nitrite	0.27 mg/l	0.43 mg/l
Nitrate	4.84 mg/l	5.94 mg/l
Nitrogen, Total Kjeldahl	8.59 mg/l	10.71 mg/l
Ammonia (May-Oct)	8.7 mg/l ⁴	12.7 mg/l ⁴
Ammonia (May-Oct)	0.7 mg/l ³	1.3 mg/l ³
Ammonia (Nov-April)	18.2 mg/l ⁴	21.7 mg/l ⁴
Ammonia (Nov-April)	3.12mg/l ³	5.5 mg/l ³
Nitrogen, total (May- Oct)	18.8 mg/l ⁴	22.5 mg/l ⁴
Nitrogen, total (May- Oct)	8.1 mg/l ³	8.98 mg/l ³
Nitrogen, total (Nov-April)	23.7 mg/l ⁴	26.9 mg/l ⁴
Nitrogen, total (Nov-April)	9.1 mg/l ³	10.0 mg/l ³
Phosphorus (April - Oct)	3.1 mg/l ⁴	5.0 mg/l ⁴
Phosphorus (April - Oct)	0.6 mg/l ³	1.1 mg/l ³
Phosphorus (Nov - March)	1.8 mg/l ⁴	2.8 mg/l ⁴
Phosphorus (Nov - March)	0.9 mg/l ³	1.7 mg/l ³

¹Data represents the mean of the monthly average data from December 2002 – November 2007.

²Data represents the mean of the daily maximum data from December 2002 – November 2007.

³Data after facility upgrades December 2004 – November 2007

⁴Data before facility upgrades December 2002 – November 2004

PART II
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DEFINITIONS

GENERAL REQUIREMENTS

(a) Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws and the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307 or 308 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment of not more than 1 year, or both.
- (3) Chapter 46-12 of the Rhode Island General Laws provides that any person who violates a permit condition is subject to a civil penalty of not more than \$5,000 per day of such violation. Any person who willfully or negligently violates a permit condition is subject to a criminal penalty of not more than \$10,000 per day of such violation and imprisonment for not more than 30 days, or both. Any person who knowingly makes any false statement in connection with the permit is subject to a criminal penalty of not more than \$5,000 for each instance of violation or by imprisonment for not more than 30 days, or both.

(b) Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(c) Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) Proper Operation and Maintenance

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. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures, and, where applicable, compliance with DEM "Rules and Regulations Pertaining to the Operation and Maintenance of Wastewater Treatment Facilities" and "Rules and Regulations Pertaining to the Disposal and Utilization of Wastewater Treatment Facility Sludge." This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to: (1) Violation of any terms or conditions of this permit; (2) Obtaining this permit by misrepresentation or failure to disclose all relevant facts; or (3) A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

- (4) Sample or monitor any substances or parameters at any location, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA or Rhode Island law.

(j) Monitoring and Records

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.
- (2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 and applicable Rhode Island regulations, unless other test procedures have been specified in this permit.
- (5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than 6 months per violation or by both. Chapter 46-12 of the Rhode Island General Laws also provides that such acts are subject to a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.
- (6) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (7) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, applicable State regulations, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(k) Signatory Requirement

All applications, reports, or information submitted to the Director shall be signed and certified in accordance with Rule 12 of the Rhode Island Pollutant Discharge Elimination System (RIPDES) Regulations. Rhode Island General Laws, Chapter 46-12 provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.

(l) Reporting Requirements

- (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.
- (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the permit requirements.
- (3) Transfers. This permit is not transferable to any person except after written notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under State and Federal law.
- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (5) Twenty-four hour reporting. The permittee shall immediately report any noncompliance which may endanger health or the environment by calling DEM at (401) 277-3961, (401) 277-6519 or (401) 277-2284 at night.

A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following information must be reported immediately:

- (i) Any unanticipated bypass which causes a violation of any effluent limitation in the permit; or
- (ii) Any upset which causes a violation of any effluent limitation in the permit; or
- (iii) Any violation of a maximum daily discharge limitation for any of the pollutants specifically listed by the Director in the permit.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

- (6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1), (2), and (5), of this section, at the time monitoring reports are submitted. The reports shall contain the information required in paragraph (1)(5) of the section.
- (7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, they shall promptly submit such facts or information.

(m) Bypass

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

- (1) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (2) and (3) of this section.
- (2) Notice.
 - (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
 - (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Rule 14.18 of the RIPDES Regulations.
- (3) Prohibition of bypass.
 - (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, where "severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production;
 - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (C) The permittee submitted notices as required under paragraph (2) of this section.

- (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (3)(i) of this section.

(n) Upset

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- (1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (2) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (2) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (a) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (b) The permitted facility was at the time being properly operated;
 - (c) The permittee submitted notice of the upset as required in Rule 14.18 of the RIPDES Regulations; and
 - (d) The permittee complied with any remedial measures required under Rule 14.05 of the RIPDES Regulations.
- (3) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. Discharges which cause a violation of water quality standards are prohibited. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to commencement of such discharges, or if such changes will not violate the effluent limitations specified in this permit, by notice, in writing, to the Director of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by the permit constitutes a violation.

(p) Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner consistent with applicable Federal and State laws and regulations including, but not limited to the CWA and the Federal Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq., Rhode Island General Laws, Chapters 46-12, 23-19.1 and regulations promulgated thereunder.

(q) Power Failures

In order to maintain compliance with the effluent limitation and prohibitions of this permit, the permittee shall either:

In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or if such alternative power source is not in existence, and no date for its implementation appears in Part I,

Halt reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

(r) Availability of Reports

Except for data determined to be confidential under paragraph (w) below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the DEM, 291 Promenade Street, Providence, Rhode Island. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and under Section 46-12-14 of the Rhode Island General Laws.

(s) State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law.

(t) Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, and local laws and regulations.

(u) Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

(v) Reopener Clause

The Director reserves the right to make appropriate revisions to this permit in order to incorporate any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA or State law. In accordance with Rules 15 and 23 of the RIPDES Regulations, if any effluent standard or prohibition, or water quality standard is promulgated under the CWA or under State law which is more stringent than any limitation on the pollutant in the permit, or controls a pollutant not limited in the permit, then the Director may promptly reopen the permit and modify or revoke and reissue the permit to conform to the applicable standard.

(w) Confidentiality of Information

(1) Any information submitted to DEM pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, DEM may make the information available to the public without further notice.

(2) Claims of confidentiality for the following information will be denied:

- (i) The name and address of any permit applicant or permittee;
- (ii) Permit applications, permits and any attachments thereto; and
- (iii) NPDES effluent data.

(x) Best Management Practices

The permittee shall adopt Best Management Practices (BMP) to control or abate the discharge of toxic pollutants and hazardous substances associated with or ancillary to the industrial manufacturing or treatment process and the Director may request the submission of a BMP plan where the Director determines that a permittee's practices may contribute significant amounts of such pollutants to waters of the State.

(y) Right of Appeal

Within thirty (30) days of receipt of notice of a final permit decision, the permittee or any interested person may submit a request to the Director for an adjudicatory hearing to reconsider or contest that decision. The request for a hearing must conform to the requirements of Rule 49 of the RIPDES Regulations.

DEFINITIONS

1. For purposes of this permit, those definitions contained in the RIPDES Regulations and the Rhode Island Pretreatment Regulations shall apply.
2. The following abbreviations, when used, are defined below.

cu. M/day or M ³ /day	cubic meters per day
mg/l	milligrams per liter
ug/l	micrograms per liter
lbs/day	pounds per day
kg/day	kilograms per day
Temp. °C	temperature in degrees Centigrade
Temp. °F	temperature in degrees Fahrenheit
Turb.	turbidity measured by the Nephelometric Method (NTU)
TNFR or TSS	total nonfilterable residue or total suspended solids
DO	dissolved oxygen
BOD	five-day biochemical oxygen demand unless otherwise specified
TKN	total Kjeldahl nitrogen as nitrogen
Total N	total nitrogen
NH ₃ -N	ammonia nitrogen as nitrogen
Total P	total phosphorus
COD	chemical oxygen demand
TOC	total organic carbon
Surfactant	surface-active agent
pH	a measure of the hydrogen ion concentration
PCB	polychlorinated biphenyl
CFS	cubic feet per second
MGD	million gallons per day
Oil & Grease	Freon extractable material
Total Coliform	total coliform bacteria
Fecal Coliform	total fecal coliform bacteria
ml/l	milliliter(s) per liter
NO ₃ -N	nitrate nitrogen as nitrogen
NO ₂ -N	nitrite nitrogen as nitrogen
NO ₃ -NO ₂	combined nitrate and nitrite nitrogen as nitrogen
Cl	total residual chlorine