RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street, Providence, Rhode Island 02908

March 19, 2019

CERTIFIED MAIL

Mr. Robert Tavares, Vice President/General Manager
Materion Technical Materials, Inc.
5 Wellington Road
Lincoln, RI 02865

RE: Final Permit Letter
Materion, 5 Wellington Road, Lincoln, RI 02865
RIPDES No. RI0023906

Dear Mr. Tavares:

Enclosed is your final Rhode Island Pollutant Discharge Elimination System (RIPDES) Permit issued pursuant to the referenced application. State regulations, promulgated under Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, require this permit to become effective on the date specified on Page 1 of the permit.

Also enclosed is the Response to Comments for comments received during the public comment period and information relative to hearing requests and stays of RIPDES Permits. As indicated in the Response to Comments, the Department of Environmental Management (DEM) is willing to enter into a consent agreement with Materion. This consent agreement will include interim limits and a schedule for Materion to comply with its zinc limits. In order to enter into a consent agreement, Materion will need to request a hearing and a stay of RIPDES permits within thirty (30) days of receipt of this letter, as indicated in the attached instructions.

Please be advised that the enclosed final permit supersedes the RIPDES Individual Permit RI0023906 issued on August 10, 2012.

We appreciate your cooperation throughout the development of this permit. Should you have any questions concerning this permit, feel free to contact Travis Babikoff of the RIPDES Permits Staff at (401) 222-4700, extension 7274.

Sincerely,

Joseph B. Haberek, PE
Supervising Sanitary Engineer

ecc: Mia DeCelles, Materion
Gil Ryan, Woodard and Curran
Crystal Charbonneau, DEM
Traci Pena, DEM

RESPONSE TO COMMENTS

From January 15, 2019 to February 21, 2019, the Rhode Island Department of Environmental Management (DEM) solicited public comment on a draft Rhode Island Pollutant Discharge Elimination System (RIPDES) permit for the Materion Technical Materials, Inc. Facility. The following is a synopsis of the significant comments received and the DEM responses to those comments.

The following responses address the comments that were raised by Materion Technical Materials, Inc. in a letter dated February 6, 2019.

Comment 1: In accordance with the public comment procedures outlines in Public Notice PN 19-02, Materion Technical Materials, Inc. (Materion) hereby submits this written request to enter into a consent agreement with the Rhode Island Department of Environmental Management, subsequent to issuance of the permit, to allow Materion time to evaluate and implement measures to comply with the zinc discharge limit of 109 ug/L at Outfall 001 in RIPDES Permit Number RI0023906.

Response 1: In order to enter into a schedule for Materion to meet the new discharge limit for zinc at Outfall 001, the DEM is willing to enter into a consent agreement with Materion that will include interim limits and a compliance schedule for making the necessary upgrades to the Materion facility.

HEARING REQUESTS

If you wish to contest any of the provisions of this permit, you may request a formal hearing within thirty (30) days of receipt of this letter. The request should be submitted to the Administrative Adjudication Division at the following address:

Mary Dalton
Department of Environmental Management
Office of Administrative Adjudication
235 Promenade Street, Room 350
Providence, RI 02908

Any request for a formal hearing must conform to the requirements of §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.50).

STAYS OF RIPDES PERMITS

Should the Department receive and grant a request for a formal hearing, the contested conditions of the permit will not automatically be stayed. However, the permittee, in accordance with §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.50), may request a temporary stay for the duration of adjudicatory hearing proceedings. Requests for stays of permit conditions should be submitted to the Office of Water Resources at the following address:

Angelo S. Liberti, P.E.
Chief of Surface Water Protection
Office of Water Resources
235 Promenade Street
Providence, Rhode Island 02908

All uncontested conditions of the permit will be effective and enforceable in accordance with the provisions of §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.50).

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,

Materion Technical Materials, Inc.
5 Wellington Road
Lincoln, RI 02865

is authorized to discharge from a facility located at

Materion Technical Materials, Inc.
5 Wellington Road
Lincoln, RI 02865

to receiving waters named

Unnamed Stream Tributary to the Moshassuck River

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

This permit supersedes the permit issued on August 10, 2012.

This permit shall become effective on May 1, 2019.

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

This permit consists of eight (8) pages in Part I including effluent limitations, monitoring requirements, etc., nineteen (19) pages in the Statement of Basis, and ten (10) pages in Part II including General Conditions.

Signed this 19th day of March, 2019.

Angelo S. Liberti

Angelo S. Liberti, P.E., Administrator 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 001 (Non-contact cooling water). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Flow	--- GPD	50,000 GPD				Continuous	Recorder[1]
pH			(6.5 S.U.)		(9.0 S.U.)	2/Month	4 Grabs[2]
Temperature, Effluent					70°F	2/Month	4 Grabs[3]
Total Zinc[4]			109 ug/l		109 ug/l	1/Month	24 Hr Composite

[1] Flow shall be recorded daily using a flow totalizer. The highest calendar day's recorded flow shall be reported for the maximum daily flow for each monitoring period. The average monthly flow is the average of daily flow values for the calendar month.

[2] Compliance with these limitations shall be determined by taking a minimum of four (4) grab samples equally spaced over the course of a normal operating day. The maximum value to be reported is the highest individual measurement obtained during the monitoring period. The minimum value to be reported is the lowest individual measurement obtained during the monitoring period.

[3] In no case shall the discharge raise the temperature above 68°F outside an established thermal mixing zone. In no case shall the temperature of the receiving water be raised more than 4.0 °F.

[4] The effluent shall be monitored for Total Zinc at a minimum of 1/Month using a 24 hour composite sample.

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

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

**Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 001 (Discharge from Non-contact cooling water system)

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 002 (well water treatment system filter backwash). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Flow	--- GPD	570 GPD				Continuous	Recorder[1]
TSS			30 mg/l		50 mg/l	2/Month	Grab
Turbidity			--- NTU		--- NTU	2/Month	Grab
pH			(6.5 S.U.)		(9.0 S.U.)	2/Month	Grab[2]

[1] Flow shall be recorded daily using a flow totalizer. The highest calendar day's recorded flow shall be reported for the maximum daily flow for each monitoring period. The average monthly flow is the average of daily flow values for the calendar month.

[2] Compliance with these limitations shall be determined by taking a minimum of one (1) grab sample. The grab sample must be analyzed for pH immediately (<15 minutes after sample collection). The maximum value to be reported is the highest individual measurement obtained during the monitoring period. The minimum value to be reported is the lowest individual measurement obtained during the monitoring period.

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

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

**Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 002 (Well water treatment system filter backwash) .

3. The pH of the effluent shall not be less than 6.5 nor greater than 9.0 standard units.

4. The discharge shall not cause visible discoloration of the receiving waters.

5. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

6. The turbidity of the receiving water shall not exceed 10 NTU over natural background.

7. Solids, sludges, or biosolids removed in the course of treatment or control of wastewaters, shall be properly disposed of in compliance with applicable state laws, regulations, and permit requirements, and in a manner such as to prevent any pollutant from such materials from entering the waters of the state.

8. This permit only authorizes the use of "Hi-Cycle 110" as a non-contact cooling water treatment chemical at a concentration not to exceed 20 ppm in the discharge. The permittee must notify the DEM and obtain written approval prior to introducing any other non-contact cooling water treatment chemical or prior to increasing the concentration of this chemical in the non-contact cooling water system. The permittee must keep sufficient documentation on-site to show that the above requirements are being met. The following information shall be made available for on-site review by DEM personnel during normal working hours:

    a. Material Safety Data Sheets (MSDS) for "Hi-Cycle 110".

    b. A bound logbook and/or electronic documentation system that documents the concentration of "Hi-Cycle 110" in the non-contact cooling water system through the frequency and duration of additive applications.

9. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

    a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (1) One hundred micrograms per liter (100 ug/l);

        (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitro-phenol; and one milligram per liter (1 mg/l) for antimony;

        (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or

        (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.

    b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (1) Five hundred micrograms per liter (500 ug/l);

        (2) One milligram per liter (1 mg/l) for antimony;

        (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or

        (4) Any other notification level established by the Director in accordance

with 40 C.F.R. s122.44(f) and Rhode Island Regulations.

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant which was not reported in the permit application.

10. This permit serves as the State's Water Quality Certificate for the discharges described herein.

B. 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. 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 documented and maintained onsite.

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 maintained onsite. 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.

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 reported as zero in accordance with the DEM's DMR Instructions, provided that all appropriate EPA approved methods were followed.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", or zero. 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.

LIST OF TOXIC POLLUTANTS

The following list of toxic pollutants has been designated pursuant to Section 307(a)(1) of the Clean Water Act. The Method Detection Limits (MDLs) represent the required Rhode Island MDLs.

	Volatiles - EPA Method 624	MDL ug/l (ppb)
1V	acrolein	10.0
2V	acrylonitrile	5.0
3V	benzene	1.0
5V	bromoform	1.0
6V	carbon tetrachloride	1.0
7V	chlorobenzene	1.0
8V	chlorodibromomethane	1.0
9V	chloroethane	1.0
10V	2-chloroethylvinyl ether	5.0
11V	chloroform	1.0
12V	dichlorobromomethane	1.0
14V	1,1-dichloroethane	1.0
15V	1,2-dichloroethane	1.0
16V	1,1-dichloroethylene	1.0
17V	1,2-dichloropropane	1.0
18V	1,3-dichloropropylene	1.0
19V	ethylbenzene	1.0
20V	methyl bromide	1.0
21V	methyl chloride	1.0
22V	methylene chloride	1.0
23V	1,1,2,2-tetrachloroethane	1.0
24V	tetrachloroethylene	1.0
25V	toluene	1.0
26V	1,2-trans-dichloroethylene	1.0
27V	1,1,1-trichloroethane	1.0
28V	1,1,2-trichloroethane	1.0
29V	trichloroethylene	1.0
31V	vinyl chloride	1.0

	Acid Compounds - EPA Method 625	MDL ug/l (ppb)
1A	2-chlorophenol	1.0
2A	2,4-dichlorophenol	1.0
3A	2,4-dimethylphenol	1.0
4A	4,6-dinitro-o-cresol	1.0
5A	2,4-dinitrophenol	2.0
6A	2-nitrophenol	1.0
7A	4-nitrophenol	1.0
8A	p-chloro-m-cresol	2.0
9A	pentachlorophenol	1.0
10A	phenol	1.0
11A	2,4,6-trichlorophenol	1.0

	Pesticides - EPA Method 608	MDL ug/l (ppb)
1P	aldrin	0.059
2P	alpha-BHC	0.058
3P	beta-BHC	0.043
4P	gamma-BHC	0.048
5P	delta-BHC	0.034
6P	chlordane	0.211
7P	4,4'-DDT	0.251
8P	4,4'-DDE	0.049
9P	4,4'-DDD	0.139
10P	dieldrin	0.082
11P	alpha-endosulfan	0.031
12P	beta-endosulfan	0.036
13P	endosulfan sulfate	0.109
14P	endrin	0.050
15P	endrin aldehyde	0.062
16P	heptachlor	0.029
17P	heptachlor epoxide	0.040

	Pesticides - EPA Method 608	MDL ug/l (ppb)
18P	PCB-1242	0.289
19P	PCB-1254	0.298
20P	PCB-1221	0.723
21P	PCB-1232	0.387
22P	PCB-1248	0.283
23P	PCB-1260	0.222
24P	PCB-1016	0.494
25P	toxaphene	1.670

	Base/Neutral - EPA Method 625	MDL ug/l (ppb)
1B	acenaphthene *	1.0
2B	acenaphthylene *	1.0
3B	anthracene *	1.0
4B	benzidine	4.0
5B	benzo(a)anthracene *	2.0
6B	benzo(a)pyrene *	2.0
7B	3,4-benzofluoranthene *	1.0
8B	benzo(ghi)perylene *	2.0
9B	benzo(k)fluoranthene *	2.0
10B	bis(2-chloroethoxy)methane	2.0
11B	bis(2-chloroethyl)ether	1.0
12B	bis(2-chloroisopropyl)ether	1.0
13B	bis(2-ethylhexyl)phthalate	1.0
14B	4-bromophenyl phenyl ether	1.0
15B	butylbenzyl phthalate	1.0
16B	2-chloronaphthalene	1.0
17B	4-chlorophenyl phenyl ether	1.0
18B	chrysene *	1.0
19B	dibenzo (a,h)anthracene *	2.0
20B	1,2-dichlorobenzene	1.0
21B	1,3-dichlorobenzene	1.0
22B	1,4-dichlorobenzene	1.0
23B	3,3'-dichlorobenzidine	2.0
24B	diethyl phthalate	1.0
25B	dimethyl phthalate	1.0
26B	di-n-butyl phthalate	1.0
27B	2,4-dinitrotoluene	2.0
28B	2,6-dinitrotoluene	2.0
29B	di-n-octyl phthalate	1.0
30B	1,2-diphenylhydrazine (as azobenzene)	1.0
31B	fluoranthene *	1.0
32B	fluorene *	1.0
33B	hexachlorobenzene	1.0
34B	hexachlorobutadiene	1.0
35B	hexachlorocyclopentadiene	2.0
36B	hexachloroethane	1.0
37B	indeno(1,2,3-cd)pyrene *	2.0
38B	isophorone	1.0
39B	naphthalene *	1.0
40B	nitrobenzene	1.0
41B	N-nitrosodimethylamine	1.0
42B	N-nitrosodi-n-propylamine	1.0
43B	N-nitrosodiphenylamine	1.0
44B	phenanthrene *	1.0
45B	pyrene *	1.0
46B	1,2,4-trichlorobenzene	1.0

OTHER TOXIC POLLUTANTS

	MDL ug/l (ppb)
BOD_5	4.0 mg/l
TSS	2.0 mg/l
Fecal Coliform	2.0 MPN/100 ml
TRC	5.0 mg/l
Antimony, Total	3.0
Arsenic, Total	1.0
Beryllium, Total	0.2
Cadmium, Total	0.1
Chromium, Total	1.0
Chromium, Hexavalent***	20.0
Copper, Total	1.0
Lead, Total	1.0
Mercury, Total	0.2
Nickel, Total	1.0
Selenium, Total	2.0
Silver, Total	0.5
Thallium, Total	1.0
Zinc, Total	5.0
Asbestos	**
Cyanide, Total	10.0
Phenols, Total***	50.0
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0

* 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:

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.

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).

C. 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). Special attention should be put towards following the sampling techniques, preservation, and holding times listed in Table II of 40 CFR Part 136.

2. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to DEM no later than the 15th day of the month following the reporting period, electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to DEM.

3. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee must submit electronic copies of documents in NetDMR that are directly related to the DMR. These include the following:

- DMR Cover Letters
- Below Detection Limit summary tables

All other reports should be submitted to DEM as a hard copy via regular US mail (see Part I.C.4 below)

4. Submittal of Requests and Reports to DEM

The following requests, reports, and information described in this permit shall be submitted as hard copy to the DEM.

A. Transfer of Permit notice
B. Request for changes in sampling location
C. Request for reduction in testing frequency
D. Request to add or change to the treatment system per Part I.A.8 of the permit
E. Written notifications required under Part II
F. Notice of unauthorized discharges

These reports, information, and requests shall be submitted to DEM by hard copy mail to the following address:

Rhode Island Department of Environmental Management
RIPDES Program
235 Promenade Street
Providence, RI 02908

5. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to DEM. This includes verbal reports and notifications required under Part II.(I)(5) General Requirements. Verbal reports and verbal notifications shall be made to DEM at (401) 222-4700 or (401) 222-3070 at night.

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

STATEMENT OF BASIS

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

RIPDES PERMIT NO.

RI0023906

NAME AND ADDRESS OF APPLICANT:

Materion Technical Materials, Inc.
5 Wellington Road
Lincoln, RI 02865

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Materion Technical Materials, Inc.
5 Wellington Road
Lincoln, RI 02865

RECEIVING WATER:

Unnamed stream – tributary to the Moshassuck River
(Waterbody ID# RI0003008R-01A)

CLASSIFICATION:

B

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 an individual RIPDES Permit to discharge into the designated receiving water. The applicant's discharges consist of Non-Contact Cooling Water, and multimedia filter backwash.

II. Permit Limitations and Conditions

The effluent limitations of the permit and the monitoring requirements may be found in the draft permit. A quantitative description of the discharge in terms of significant effluent parameters based on discharge monitoring report (DMR) data is shown in Attachment A.

III. Permit Basis and Explanation of Effluent Limitation Derivation

The Facility

The facility is involved in the manufacturing of electronic connectors. The proposed discharges are designated by outfall numbers 001 and 002. Outfall 001 consists of Non-Contact Cooling Water (NCCW) which is used to cool a variety of equipment throughout the facility. A liquid chemical dispersant, DuBois Hi Cycle 110, is injected immediately downstream of the filtered process water discharge location. The chemical dispersant provides corrosion control

and pH neutralization. A chemical metering system feeds the product at a dosing rate to achieve a maximum dispersant concentration of 20 ppm in the filtered well water supply. The chemical makeup and feed system includes one each of the following components: LMI AD841-920SI electronic metering pump; LMI 26350 50-gallon day tank; LMI 10590 mechanical agitator; seametrics SEAFT420W65 flow transmitter with pulse output; Seametrics SEATX81P in-line flow sensor, and Westfall Model 2800 wafer style in-line static mixer. Two (2) multi-media filters with automated control operate in parallel, alternating configuration. The media filters are 24" in diameter and 72" high. The media configuration in each vessel consists of layers of (top to bottom) Anthracite, Silica Sand, Crushed Garnet (2 sized grades), and Bedding Gravel (3 sized grades). The media filters are provided with automatic 3-way valves to allow use of external backwash water. The backwash water is discharged to the stormwater collection system via a dedicated discharge pipe to the catch basin located upstream of stormwater outfall 001. Outfall 002 consists of the filter backwash from a groundwater filtration system which is used to pretreat well water prior to use in the NCCW system. The facility is currently permitted to discharge under a RIPDES Permit Authorization No. RI0023906. The facility is seeking to reapply for coverage under this same permit number. A process flow diagram is included as Attachment C.

Receiving Water

The ultimate receiving water is an unnamed perennial stream which is tributary to the Moshassuck River which is considered the headwaters to the inlet of Barney Pond. This unnamed stream is designated as Water Use Classification "B" and is designated as a coldwater fishery. Class B waters shall be suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. The Moshassuck River headwaters including tributaries to the inlet of Barney Pond in Lincoln, RI are currently not meeting Rhode Island Water Quality Standards and are listed as impaired for Enterococcus and Benthic-Macroinvertebrate Bioassessments according to the State of Rhode Island 2016 303(d) List, List of Impaired Waters dated March 2018.

General Requirements

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: identifying applicable technology-based limits; calculating allowable water-quality based discharge levels based on instream criteria, background data and available dilution; establishing Best Professional Judgement (BPJ) limits in accordance with Section 402 of the CWA; and assigning the most stringent as the final discharge limitations.

Water quality criteria are comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or States for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal. A technology-based limit is a numeric limit, which is determined by examining the capability of a treatment process to reduce or eliminate pollutants.

250-RICR-150-05 §1.10(C) of the Water Quality Regulations describes the flows used to determine compliance with the aquatic life criteria, specifying that the design flow to be utilized for aquatic life criteria shall not be exceeded at or above the lowest average seven (7) consecutive day low flow with an average recurrence frequency of once in ten (10) years (7Q10). According to a November 2003 report prepared by the Superfund Technical Assessment and Response Team (START) conducted under EPA Contract 68-W-00-097 the southern branch of the North Central Industrial Park stormwater drainage system discharges through a pipe into the unnamed stream immediately east of the intersection of Wellington Road and Carol Drive. This is the same location where the NCCW and filter backwash discharges that originate from Materion exit the North Central Industrial Park storm water drainage system and enter the receiving water. The drainage basin area of the unnamed stream at the location where the storm water drainage system discharges from the North Central Industrial Park was calculated to be approximately 0.2 square miles. Using the U.S. Geological Survey (USGS) conversion factor of 1.8 cubic feet per second

(cfs)/mi^2 (an estimate and average of the intensity, rate, and frequency of overland flow in New England), the unnamed perennial stream was estimated by START to have an average flow rate of 0.4 cfs at the point where the storm drain system enters. A low-flow 7Q10 flow value of 0.03 cfs was estimated for the point of discharge into the unnamed perennial stream. This 7Q10 value is based upon the ratio of average flows to calculated 7Q10 flows in the subject watershed. Using the combined discharge flow from outfalls 001 and 002 of 50,570 gallons per day and a 7Q10 flow estimate of 0.03 cfs a dilution factor of 1.388 was generated at the point of discharge. In addition, a site-specific hardness value of 75.0 mg/l as $CaCO_3$ was utilized in the development of water quality-based permit limitations. This hardness value was based on the hardness values during critical flow conditions and to capture the worst-case scenario, collected at DEM Station Number MSK09 scenario which is located on the Moshassuck River at Sherman Avenue in Lincoln, RI.

Water Quality Based Permit Limitations

The allowable effluent limitations were established based on the non-class AA freshwater acute and chronic aquatic life criteria and human health criteria specified in 250-RICR-150-05 §1.26 of the Rhode Island Water Quality Regulations, as amended, using 80% allocation when no background data was available and 90% allocation when background data is available. Since there is no background data available the allowable water quality-based discharge levels are set equal to 80% of the water quality criteria for Class B waters as listed in 250-RICR-150-05 §1.26 of the Rhode Island Water Quality Regulations using the following equation:

Limit = (Dilution Factor)(Criteria)*(80%)*

Attachment D of this permit includes the water quality-based limit calculations. In accordance with 40 CFR 122.44(d)(1)(iii), water quality based effluent limitations are only required for those pollutants in the discharge that have the reasonable potential to cause or contribute to the exceedence of instream criteria. In order to evaluate the need for permit limits, the allowable monthly average (chronic) and allowable maximum daily (acute) discharge concentrations are compared to the Discharge Monitoring Report (DMR) data or other monitoring data.

pH

The effluent limitations for pH were established in accordance with the Rhode Island Water Quality Regulations 250-RICR-150-05 §1.10(D) Class Specific Criteria –Class B Fresh Waters. 250-RICR-150-05 §1.10(D) Class Specific Criteria – Class B Fresh Waters specifies that the pH must be in the range of 6.5-9.0 s.u. or as naturally occurs.

Temperature

In order to determine appropriate effluent limitations for temperature at outfall 001 a heat balance calculation was performed in accordance with the Rhode Island Water Quality Regulations 250-RICR-150-05 §1.10(D) Class Specific Criteria – Class B Fresh Waters. The heat balance calculation resulted in an effluent limitation of 70°F at outfall 001. The heat balance calculation is shown in Attachment B. It is anticipated that Materion will be able to comply with this permit limitation at outfall 001 given the fact that the maximum reading shown in Attachment A is 70°F.

Total Zinc

Monitoring for Total Zinc was required under the previous permit in order to gather additional information to determine if the NCCW discharge has reasonable potential to violate water quality criteria on a long-term basis. Based on the average influent zinc concentration of 662.5 ug/l, it has been determined that there exists a reasonable potential to violate water quality criteria for zinc. The applicable permit limitation for total zinc given the site-specific hardness value is 109 ug/l. Therefore, the DEM will continue to require Materion to sample the effluent of the NCCW for zinc to ensure these limits are being met. Samples of influent zinc concentrations will no longer be required, as the original purpose was to determine if there was reasonable potential for water

quality criteria to be exceeded and for zinc limits to be added, and this purpose has been satisfied. Recent zinc data has routinely exceeded the water quality-based limit of 109 ug/l, with the mean of monthly averages being 141 ug/l. Therefore, the DEM anticipates entering a consent agreement with Materion, subsequent to issuance of the permit. This consent agreement will include interim limits for zinc and a compliance schedule for Materion to evaluate and implement measures to comply with the zinc limits.

Total Suspended Solids

TSS concentration-based limitations of 30 mg/l monthly average and 50 mg/l daily maximum have been established for TSS based on Best Professional Judgement (BPJ) for the treatment capabilities of systems currently used for the treatment of potable water treatment waste streams throughout the country. The DEM has determined that the use of the Best Available Treatment technologies is not cost prohibitive and that by using the Best Available Treatment technologies such as a settling lagoon or other devices whereby comparable control of suspended solids is possible, the 30 mg/l and 50 mg/l TSS limitations can be achieved.

Turbidity

Turbidity monitoring requirements have been included in this permit in order to establish a database of NTU data that can be used to determine compliance with water quality criteria. The permit also includes a narrative condition that the receiving water's turbidity not be increased more than 10 NTU over background.

Water Treatment Chemicals

As described in the treatment process section, Materion will be introducing a cooling water dispersant in order to keep heat exchange surfaces the non-contact cooling water systems within the facility clean and free of corrosion and deposits. The specific dispersant authorized for use in the NCCW system is specified in Part I.A.8 of the permit. The permittee is required to use the authorized dispersant at a concentration that is below the toxic concentration listed on the Material Safety Data Sheet included with the permit application. The permittee must obtain approval from the DEM prior to increasing the concentration of this additive in the discharge or prior to using any other treatment chemicals.

Whole Effluent Toxicity (WET) Testing

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. Based on Materion's compliance history, small volume of discharge, and the nature of the discharge (being non-contact cooling water), DEM has determined that WET monitoring is not required at this time.

Stormwater

This permit does not authorize the discharge of stormwater from the Materion facility. Based on the RIPDES Program's review it has been determined that facilities that fall under SIC code 3499 – Fabricated Metal Products are required to obtain coverage under the NPDES Storm Water Multi-Sector General Permit and therefore the facility is required to apply for coverage under a separate permit. However, Materion is exempt from requiring coverage under the General Permit due to the fact that it has submitted a No Exposure Certification for Exclusion from RIPDES Industrial Storm Water Permitting. A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowfall, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product

or waste product. The RIPDES No Exposure Certification tracking number for Materion is RIRNE0201.

Antibacksliding/Antidegradation

The Anitbacksliding Provision of the Clean Water Act (found at Section 402(o) and repeated at 40 CFR 122.44(l)) prohibits reissuing a permit containing less stringent effluent limits than the comparable limits from the previous permit. Since none of the permit limits, both concentration and mass loadings, are less stringent than in the previous permit, antibacksliding regulations are being met. The draft permit is being reissued with limitations as stringent or more stringent than those in the existing permit with no change to the outfall locations.

Selection of Final Permit Limits

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 Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation Policy.

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 administrative and management requirements common to all permits.

IV. 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. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the Rhode Island Department of Environmental Management. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Director finds that response to this notice indicates significant public interest. 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, if such hearing is held, 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 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 §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System, 250-RICR-150-10 §1.50.

V. 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:

Travis Babikoff
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 ext. 7274; Email: travis.babikoff@dem.ri.gov

1/11/19
Date

Joseph B. Haberek, PE
Supervising Sanitary Engineer
RIPDES Permitting Section
Office of Water Resources
Department of Environmental Management

ATTACHMENT A

DESCRIPTION OF DISCHARGES: 001A – Effluent from Non-Contact Cooling Water System
002A – Effluent from Multimedia Filter Backwash

EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

	OUTFALL 001A	
PARAMETER	001A **Average**[1]	001A **Maximum**[1]
FLOW (GPD)	29273	44784
pH min/max (S.U.)[2]	6.7 / 7.0	6.7 / 7.0
Temperature (°F)	67.1	70
Zinc, Total (ug/L)	141	141

[1] Data represents the mean of the monthly average and daily maximum data from March 2013 through September 2018.

[2] Data for pH represents the minimum and maximum values measured for each outfall.

	OUTFALL 002A	
PARAMETER	002A **Average**[1]	002A **Maxium**[2]
FLOW (GPD)	525	525
pH min/max (S.U.)[2]	6.5 / 6.8	6.5 / 6.8
TSS (mg/L)	4.9	38
Turbidity (NTU)	8.5	81

[1]Data represents the mean of the monthly average and daily maximum data from March 2013 through September 2018.

[2] Data for pH represents the minimum and maximum values measured for each outfall.

ATTACHMENT B

Flow:

Receiving Water – Unnamed Perrenial Stream - 7Q10 = 0.03 CFS or 0.019 MGD
Outfall 001 - Daily Maximum Limit = 0.05 MGD

Temperature:

Outfall 001 – Maximum Temperature Limit = T_{limit} °F

Assume Instream Temperature = 64 °F

Assume Maximum Temperature Change ▲T = 4°F

Water Quality Limits:

Receiving Water Body: Unnamed Perrenial Stream, Class B Water Body, Cold Water Habitat. 250-RICR-150-05 §1.26 of the Rhode Island Water Quality Regulations Class Specific Criteria for Class B Fresh Waters states the following regarding temperature:

No activity shall raise the temperature of the receiving waters above the recommended limit on the most sensitive receiving water use nor cause the growth of undesirable or nuisance species of biota. Heated discharges into designated coldwater habitats shall not raise the temperature above 68°F outside an established thermal mixing zone. In no case shall the temperature of the receiving water be raised more than 4°F.

Heat Balance:

$$Q_{max}(T_{limit}) + Q_{7Q10}(T_{instream}) = (Q_{max} + Q_{7Q10})(T_{instream} + \blacktriangle T)$$

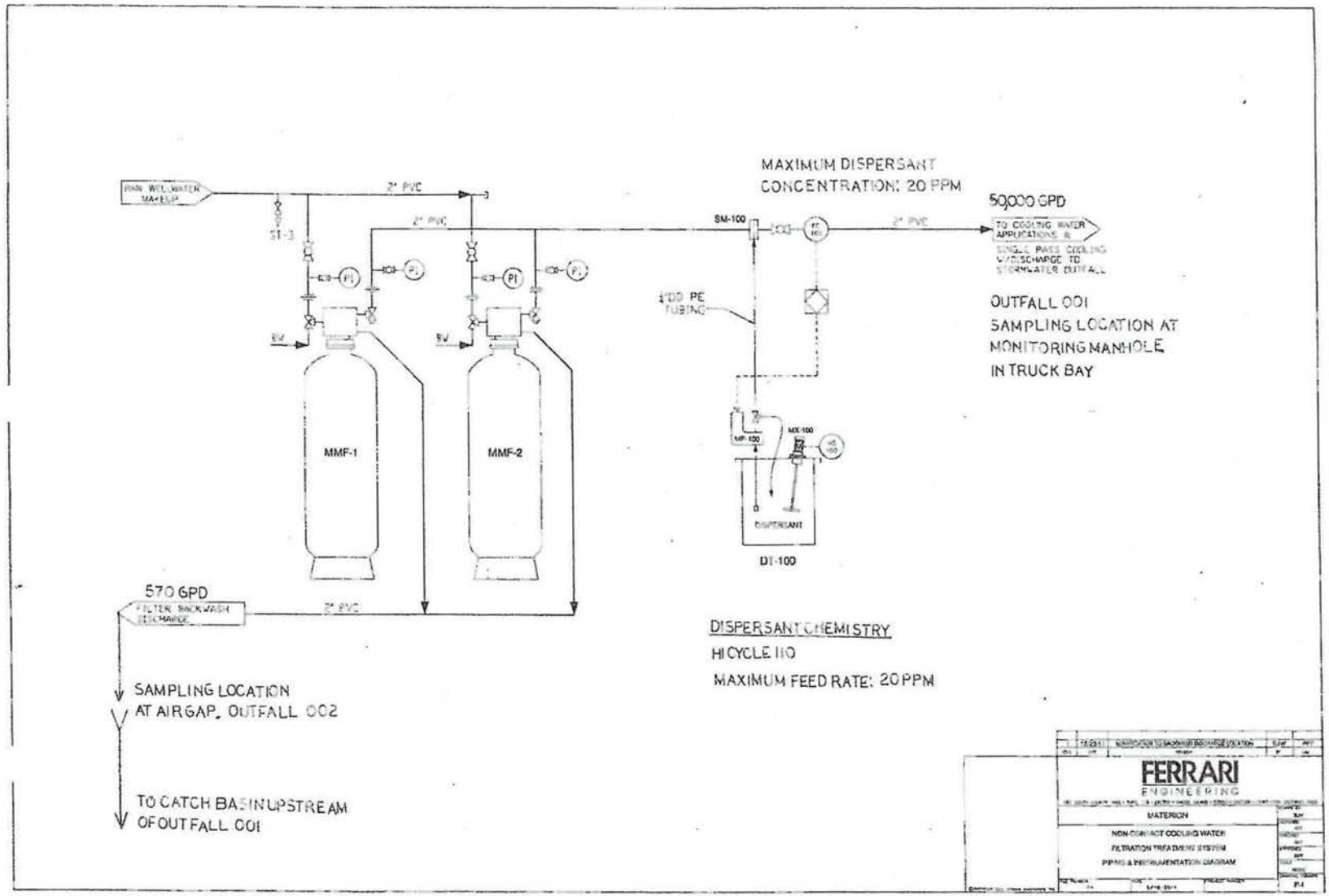
Where:
Q_{max} = 0.05 MGD
Q_{7Q10} = 0.019 MGD
T_{limit} = Daily Maximum Permit Limit in °F
$T_{instream}$ = 64°F
▲T = 4°F

$$(0.05\ MGD)(T_{limit}) + (0.019\ MGD)(64\ ^{\circ}F) = (0.05\ MGD + 0.019\ MGD)(64\ ^{\circ}F + 4^{\circ}F)$$

Solve for T_{limit}.

T_{limit} = **70°F**

ATTACHMENT C


MAXIMUM DISPERSANT
CONCENTRATION: 20 PPM
50,000 GPD
TO COOLING WATER APPLICATIONS &
SINGLE PASS COOLING WATER DISCHARGE TO STORMWATER OUTFALL
OUTFALL 001
SAMPLING LOCATION AT
MONITORING MANHOLE
IN TRUCK BAY
RAW WELL WATER MAKEUP
2" PVC
SM-100
1/2" PE TUBING
MMF-1
MMF-2
DISPERSANT
DT-100
570 GPD
FILTER BACKWASH DISCHARGE
SAMPLING LOCATION
AT AIRGAP, OUTFALL 002
TO CATCH BASIN UPSTREAM
OF OUTFALL 001
DISPERSANT CHEMISTRY
HI CYCLE 110
MAXIMUM FEED RATE: 20 PPM
FERRARI
ENGINEERING
MATERION
NON-CONTACT COOLING WATER
FILTRATION TREATMENT SYSTEM
PIPING & INSTRUMENTATION DIAGRAM

ATTACHMENT D

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY SPECIFIC DATA INPUT SHEET

NOTE: LIMITS BASED ON RI WATER QUALITY CRITERIA DATED JULY 2006

FACILITY NAME: **MATERION**

RIPDES PERMIT #: **RI0023906**

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	NA	NA	NA
ARSENIC	NA	1	1
CADMIUM	NA	0.956036932	0.921036932
CHROMIUM III	NA	0.316	0.86
CHROMIUM VI	NA	0.982	0.962
COPPER	NA	0.96	0.96
LEAD	NA	0.832920172	0.832920172
MERCURY	NA	0.85	0.85
NICKEL	NA	0.998	0.997
SELENIUM	NA	NA	NA
SILVER	NA	0.85	NA
ZINC	20	0.978	0.986
AMMONIA (as N)	NA		

USE NA WHEN NO DATA IS AVAILABLE

NOTE 1: METAL TRANSLATORS FROM RI WATER QUALITY REGS.

pH =	7.0 S.U.
HARDNESS =	75.0 (mg/L as CaCO3)

FLOW DATA	
DESIGN FLOW =	0.050 MGD
=	0.077 CFS
7Q10 FLOW =	0.030 CFS
7Q10 (JUNE-OCT) =	0.000 CFS
7Q10 (NOV-MAY) =	0.000 CFS
30Q5 FLOW =	0.000 CFS
HARMONIC FLOW =	0.000 CFS

DILUTION FACTORS	
ACUTE =	**1.388**
CHRONIC =	**1.388**
(MAY-OCT) =	**1.000**
(NOV-APR) =	**1.000**
30Q5 FLOW =	**1.000**
HARMONIC FLOW =	**1.000**

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS
FACILITY NAME: MATERION RIPDES PERMIT #: RI0023906

Month	Upper 90th% pH	Acute Criteria* mg/L as N	Chronic Criteria* mg/L as N
May	7.9	10.1	1.46
Jun	7.9	10.1	1.46
Jul	7.9	10.1	1.46
Aug	7.9	10.1	1.46
Sep	7.9	10.1	1.46
Oct	7.9	10.1	1.46
Nov	7.9	10.1	1.46
Dec	7.9	10.1	1.46
Jan	7.9	10.1	1.46
Feb	7.9	10.1	1.46
Mar	7.9	10.1	1.46
Apr	7.9	10.1	1.46

**NOTE: Criteria from Appendix B of the RI Water Quality Regs., July 2006.*

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: MATERION RIPDES PERMIT #: RI0023906

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:							
TOXIC METALS AND CYANIDE							
ANTIMONY	7440360		450	499.594752	10	640	11.1021056
ARSENIC (limits are total recoverable)	7440382	NA	340	377.4715904	150	1.4	1.12
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417		7.5	8.3265792	0.17		0.188735795
CADMIUM (limits are total recoverable)	7440439	NA	1.522265494	1.767750982	0.201406868		0.242774229
CHROMIUM III (limits are total recoverable)	16065831	NA	450.1629821	1581.56866	58.55695529		75.59366293
CHROMIUM VI (limits are total recoverable)	18540299	NA	16	18.08897043	11		12.69471534
COPPER (limits are total recoverable)	7440508	NA	10.24833554	11.85188577	7.00393125		8.099831703
CYANIDE	57125		22	24.42463232	5.2	140	5.773094912
LEAD (limits are total recoverable)	7439921	NA	47.15051328	62.84755672	1.837387811		2.449079059
MERCURY (limits are total recoverable)	7439976	NA	1.4	1.828582099	0.77	0.15	0.141176471
NICKEL (limits are total recoverable)	7440020	NA	367.0848211	408.3581611	40.77179058	4600	45.40147689
SELENIUM (limits are total recoverable)	7782492	NA	20	22.2042112	5	4200	5.5510528
SILVER (limits are total recoverable)	7440224	NA	2.103411659	2.747329218	NA		No Criteria
THALLIUM	7440280		46	51.06968576	1	0.47	0.376
ZINC (limits are total recoverable)	7440666	20	91.83211469	109.3474871	92.58329763	26000	109.4118256
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	107028		2.9	3.219610624	0.06	290	0.066612634
ACRYLONITRILE	107131		378	419.6595917	8.4	2.5	2
BENZENE	71432		265	294.2057984	5.9	510	6.550242304
BROMOFORM	75252		1465	1626.45847	33	1400	36.63694848
CARBON TETRACHLORIDE	56235		1365	1515.437414	30	16	12.8
CHLOROBENZENE	108907		795	882.6173952	18	1600	19.98379008
CHLORODIBROMOMETHANE	124481			No Criteria		130	104
CHLOROFORM	67663		1445	1604.254259	32	4700	35.52673792
DICHLOROBROMOMETHANE	75274			No Criteria		170	136
1,2DICHLOROETHANE	107062		5900	6550.242304	131	370	145.4375834
1,1DICHLOROETHYLENE	75354		580	643.9221248	13	7100	14.43273728
1,2DICHLOROPROPANE	78875		2625	2914.30272	58	150	64.39221248
1,3DICHLOROPROPYLENE	542756			No Criteria		21	16.8
ETHYLBENZENE	100414		1600	1776.336896	36	2100	39.96758016
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	1200
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092		9650	10713.5319	214	5900	237.5850598

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: MATERION RIPDES PERMIT #: RI0023906

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,1,2,2TETRACHLOROETHANE	79345		466	517.358121	10	40	11.1021056
TETRACHLOROETHYLENE	127184		240	266.4505344	5.3	33	5.884115968
TOLUENE	108883		635	704.9837056	14	15000	15.54294784
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	8000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005		900	999.189504	20	160	22.2042112
TRICHLOROETHYLENE	79016		1950	2164.910592	43	300	47.73905408
VINYL CHLORIDE	75014			No Criteria		2.4	1.92
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578		129	143.2171622	2.9	150	3.219610624
2,4DICHLOROPHENOL	120832		101	112.1312666	2.2	290	2.442463232
2,4DIMETHYLPHENOL	105679		106	117.6823194	2.4	850	2.664505344
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	224
2,4DINITROPHENOL	51285		31	34.41652736	0.69	5300	0.766045286
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		0.054292982	0.060276642	0.041653899	30	0.046244599
PHENOL	108952		251	278.6628506	5.6	1700000	6.217179136
2,4,6TRICHLOROPHENOL	88062		16	17.76336896	0.36	24	0.399675802
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329		85	94.3678976	1.9	990	2.109400064
ANTHRACENE	120127			No Criteria		40000	32000
BENZIDINE	92875			No Criteria		0.002	0.0016
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	0.144
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	4.24
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	52000
BIS(2ETHYLHEXYL)PHTHALATE	117817		555	616.1668608	12	22	13.32252672
BUTYL BENZYL PHTHALATE	85687		85	94.3678976	1.9	1900	2.109400064
2CHLORONAPHTHALENE	91587			No Criteria		1600	1280
1,2DICHLOROBENZENE	95501		79	87.70663424	1.8	1300	1.998379008
1,3DICHLOROBENZENE	541731		390	432.9821184	8.7	960	9.658831872
1,4DICHLOROBENZENE	106467		56	62.17179136	1.2	190	1.332252672
3,3DICHLOROBENZIDENE	91941			No Criteria		0.28	0.224
DIETHYL PHTHALATE	84662		2605	2892.098509	58	44000	64.39221248
DIMETHYL PHTHALATE	131113		1650	1831.847424	37	1100000	41.07779072
DI-n-BUTYL PHTHALATE	84742			No Criteria		4500	3600
2,4DINITROTOLUENE	121142		1550	1720.826368	34	34	27.2

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: MATERION RIPDES PERMIT #: RI0023906

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,2DIPHENYLHYDRAZINE	122667		14	15.54294784	0.31	2	0.344165274
FLUORANTHENE	206440		199	220.9319014	4.4	140	4.884926464
FLUORENE	86737			No Criteria		5300	4240
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.00232
HEXACHLOROBUTADIENE	87683			No Criteria		180	144
HEXACHLOROCYCLOPENTADIENE	77474		0.35	0.388573696	0.008	1100	0.008881684
HEXACHLOROETHANE	67721		49	54.40031744	1.1	33	1.221231616
ISOPHORONE	78591		5850	6494.731776	130	9600	144.3273728
NAPHTHALENE	91203		115	127.6742144	2.6		2.886547456
NITROBENZENE	98953		1350	1498.784256	30	690	33.3063168
N-NITROSODIMETHYLAMINE	62759			No Criteria		30	24
N-NITROSODI-N-PROPYLAMINE	621647			No Criteria		5.1	4.08
N-NITROSODIPHENYLAMINE	86306		293	325.2916941	6.5	60	7.21636864
PYRENE	129000			No Criteria		4000	3200
1,2,4trichlorobenzene	120821		75	83.265792	1.7	70	1.887357952
PESTICIDES/PCBs							
ALDRIN	309002		3	3.33063168		0.0005	0.0004
Alpha BHC	319846			No Criteria		0.049	0.0392
Beta BHC	319857			No Criteria		0.17	0.136
Gamma BHC (Lindane)	58899		0.95	1.054700032		1.8	1.44
CHLORDANE	57749		2.4	2.664505344	0.0043	0.0081	0.004773905
4,4DDT	50293		1.1	1.221231616	0.001	0.0022	0.001110211
4,4DDE	72559			No Criteria		0.0022	0.00176
4,4DDD	72548			No Criteria		0.0031	0.00248
DIELDRIN	60571		0.24	0.266450534	0.056	0.00054	0.000432
ENDOSULFAN (alpha)	959988		0.22	0.244246323	0.056	89	0.062171791
ENDOSULFAN (beta)	33213659		0.22	0.244246323	0.056	89	0.062171791
ENDOSULFAN (sulfate)	1031078			No Criteria		89	71.2
ENDRIN	72208		0.086	0.095478108	0.036	0.06	0.03996758
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	0.24
HEPTACHLOR	76448		0.52	0.577309491	0.0038	0.00079	0.000632
HEPTACHLOR EPOXIDE	1024573		0.52	0.577309491	0.0038	0.00039	0.000312
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.014	0.00064	0.000512
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	4.08E-08
TOXAPHENE	8001352		0.73	0.810453709	0.0002	0.0028	0.000222042
TRIBUTYLTIN			0.46	0.510696858	0.072		0.07993516

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: MATERION RIPDES PERMIT #: RI0023906

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:							
OTHER SUBSTANCES							
ALUMINUM (limits are total recoverable)	7429905	NA	750	832.65792	87		96.58831872
AMMONIA as N(winter/summer)	7664417		10.1 | 10.1	8080 | 8080	1.46 | 1.46		1168 | 1168
4BROMOPHENYL PHENYL ETHER			18	19.98379008	0.4		0.444084224
CHLORIDE	16887006		860000	954781.0816	230000		255348.4288
CHLORINE	7782505		19	26.3675008	11		15.2653952
4CHLORO2METHYLPHENOL			15	16.6531584	0.32		0.355267379
1CHLORONAPHTHALENE			80	88.8168448	1.8		1.998379008
4CHLOROPHENOL	106489		192	213.1604275	4.3		4.773905408
2,4DICHLORO6METHYLPHENOL			22	24.42463232	0.48		0.532901069
1,1DICHLOROPROPANE			1150	1276.742144	26		28.86547456
1,3DICHLOROPROPANE	142289		303	336.3937997	6.7		7.438410752
2,3DINITROTOLUENE			17	18.87357952	0.37		0.410777907
2,4DINITRO6METHYL PHENOL			12	13.32252672	0.26		0.288654746
IRON	7439896			No Criteria	1000		1110.21056
pentachlorobenzene	608935		13	14.43273728	0.28		0.310858957
PENTACHLOROETHANE			362	401.8962227	8		8.88168448
1,2,3,5tetrachlorobenzene			321	356.3775898	7.1		7.882494976
1,1,1,2TETRACHLOROETHANE	630206		980	1088.006349	22		24.42463232
2,3,4,6TETRACHLOROPHENOL	58902		7	7.77147392	0.16		0.17763369
2,3,5,6TETRACHLOROPHENOL			8.5	9.43678976	0.19		0.210940006
2,4,5TRICHLOROPHENOL	95954		23	25.53484288	0.51		0.566207386
2,4,6TRINITROPHENOL	88062		4235	4701.741722	94		104.3597926
XYLENE	1330207		133	147.6580045	3		3.33063168

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: TEST WWTF

RIPDES PERMIT #: RI8675309

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS			
TOXIC METALS AND CYANIDE			
ANTIMONY	7440360	499.59	11.10
ARSENIC, TOTAL	7440382	377.47	1.12
ASBESTOS	1332214	No Criteria	0.00000
BERYLLIUM	7440417	8.33	0.19
CADMIUM, TOTAL	7440439	1.77	0.24277
CHROMIUM III, TOTAL	16065831	1581.57	75.59
CHROMIUM VI, TOTAL	18540299	18.09	12.69
COPPER, TOTAL	7440508	11.85	8.10
CYANIDE	57125	24.42	5.77
LEAD, TOTAL	7439921	62.85	2.45
MERCURY, TOTAL	7439976	1.83	0.14
NICKEL, TOTAL	7440020	408.36	45.40
SELENIUM, TOTAL	7782492	22.20	5.55
SILVER, TOTAL	7440224	2.75	No Criteria
THALLIUM	7440280	51.07	0.38
ZINC, TOTAL	7440666	109.35	109.35
VOLATILE ORGANIC COMPOUNDS			
ACROLEIN	107028	3.22	0.06661
ACRYLONITRILE	107131	419.66	2.00
BENZENE	71432	294.21	6.55
BROMOFORM	75252	1626.46	36.64
CARBON TETRACHLORIDE	56235	1515.44	12.80
CHLOROBENZENE	108907	882.62	19.98
CHLORODIBROMOMETHANE	124481	No Criteria	104.00
CHLOROFORM	67663	1604.25	35.53
DICHLOROBROMOMETHANE	75274	No Criteria	136.00
1,2DICHLOROETHANE	107062	6550.24	145.44
1,1DICHLOROETHYLENE	75354	643.92	14.43
1,2DICHLOROPROPANE	78875	2914.30	64.39
1,3DICHLOROPROPYLENE	542756	No Criteria	16.80
ETHYLBENZENE	100414	1776.34	39.97
BROMOMETHANE (methyl bromide)	74839	No Criteria	1200.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	0.00000
METHYLENE CHLORIDE	75092	10713.53	237.59
1,1,2,2TETRACHLOROETHANE	79345	517.36	11.10
TETRACHLOROETHYLENE	127184	266.45	5.88
TOLUENE	108883	704.98	15.54
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	8000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	0.00000
1,1,2TRICHLOROETHANE	79005	999.19	22.20
TRICHLOROETHYLENE	79016	2164.91	47.74
VINYL CHLORIDE	75014	No Criteria	1.92
ACID ORGANIC COMPOUNDS			
2CHLOROPHENOL	95578	143.22	3.22
2,4DICHLOROPHENOL	120832	112.13	2.44
2,4DIMETHYLPHENOL	105679	117.68	2.66
4,6DINITRO2METHYL PHENOL	534521	No Criteria	224.00
2,4DINITROPHENOL	51285	34.42	0.77
4NITROPHENOL	88755	No Criteria	0.00000
PENTACHLOROPHENOL	87865	0.06	0.04624
PHENOL	108952	278.66	6.22
2,4,6TRICHLOROPHENOL	88062	17.76	0.40
BASE NEUTRAL COMPUNDS			
ACENAPHTHENE	83329	94.37	2.11
ANTHRACENE	120127	No Criteria	32000.00
BENZIDINE	92875	No Criteria	0.00160
PAHs		No Criteria	0.14
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	4.24
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	52000.00
BIS(2ETHYLHEXYL)PHTHALATE	117817	616.17	13.32
BUTYL BENZYL PHTHALATE	85687	94.37	2.11
2CHLORONAPHTHALENE	91587	No Criteria	1280.00
1,2DICHLOROBENZENE	95501	87.71	2.00
1,3DICHLOROBENZENE	541731	432.98	9.66
1,4DICHLOROBENZENE	106467	62.17	1.33
3,3DICHLOROBENZIDENE	91941	No Criteria	0.22
DIETHYL PHTHALATE	84662	2892.10	64.39
DIMETHYL PHTHALATE	131113	1831.85	41.08
DI-n-BUTYL PHTHALATE	84742	No Criteria	3600.00
2,4DINITROTOLUENE	121142	1720.83	27.20
1,2DIPHENYLHYDRAZINE	122667	15.54	0.34
FLUORANTHENE	206440	220.93	4.88

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: TEST WWTF RIPDES PERMIT #: RI8675309

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	4240.00
HEXACHLOROBENZENE	118741	No Criteria	0.00232
HEXACHLOROBUTADIENE	87683	No Criteria	144.00
HEXACHLOROCYCLOPENTADIENE	77474	0.39	0.00888
HEXACHLOROETHANE	67721	54.40	1.22
ISOPHORONE	78591	6494.73	144.33
NAPHTHALENE	91203	127.67	2.89
NITROBENZENE	98953	1498.78	33.31
N-NITROSODIMETHYLAMINE	62759	No Criteria	24.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	4.08
N-NITROSODIPHENYLAMINE	86306	325.29	7.22
PYRENE	129000	No Criteria	3200.00
1,2,4trichlorobenzene	120821	83.27	1.89
PESTICIDES/PCBs			
ALDRIN	309002	3.33	0.00040
Alpha BHC	319846	No Criteria	0.04
Beta BHC	319857	No Criteria	0.14
Gamma BHC (Lindane)	58899	1.05	1.05
CHLORDANE	57749	2.66	0.00477
4,4DDT	50293	1.22	0.00111
4,4DDE	72559	No Criteria	0.00176
4,4DDD	72548	No Criteria	0.00248
DIELDRIN	60571	0.27	0.00043
ENDOSULFAN (alpha)	959988	0.24	0.06217
ENDOSULFAN (beta)	33213659	0.24	0.06217
ENDOSULFAN (sulfate)	1031078	No Criteria	71.20
ENDRIN	72208	0.10	0.04
ENDRIN ALDEHYDE	7421934	No Criteria	0.24
HEPTACHLOR	76448	0.58	0.00
HEPTACHLOR EPOXIDE	1024573	0.58	0.00
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.00
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	0.81	0.00
TRIBUTYLTIN		0.51	0.08

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:			
OTHER SUBSTANCES			
ALUMINUM, TOTAL	7429905	832.66	96.59
AMMONIA (as N), WINTER (NOV-API	7664417	8080.00	1168.00
AMMONIA (as N), SUMMER (MAY-O(	7664417	8080.00	1168.00
4BROMOPHENYL PHENYL ETHER		19.98	0.44
CHLORIDE	16887006	954781.08	255348.43
CHLORINE	7782505	26.37	15.27
4CHLORO2METHYLPHENOL		16.65	0.36
1CHLORONAPHTHALENE		88.82	2.00
4CHLOROPHENOL	106489	213.16	4.77
2,4DICHLORO6METHYLPHENOL		24.42	0.53
1,1DICHLOROPROPANE		1276.74	28.87
1,3DICHLOROPROPANE	142289	336.39	7.44
2,3DINITROTOLUENE		18.87	0.41
2,4DINITRO6METHYL PHENOL		13.32	0.29
IRON	7439896	No Criteria	1110.21
pentachlorobenzene	608935	14.43	0.31
PENTACHLOROETHANE		401.90	8.88
1,2,3,5tetrachlorobenzene		356.38	7.88
1,1,1,2TETRACHLOROETHANE	630206	1088.01	24.42
2,3,4,6TETRACHLOROPHENOL	58902	7.77	0.18
2,3,5,6TETRACHLOROPHENOL		9.44	0.21
2,4,5TRICHLOROPHENOL	95954	25.53	0.57
2,4,6TRINITROPHENOL	88062	4701.74	104.36
XYLENE	1330207	147.66	3.33

PART II
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GENERAL REQUIREMENTS

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 5 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) 222-4700 or (401) 222-3070 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 (l)(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 pubic 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_2	total residual chlorine