



## State of New Jersey

CHRIS CHRISTIE  
*Governor*

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Mail Code – 401-02B  
Division of Water Quality  
Bureau of Surface Water Permitting  
P.O. Box 420 – 401 E State St  
Trenton, NJ 08625-0420  
Phone: (609) 292-4860 / Fax: (609) 984-7938

BOB MARTIN  
*Commissioner*

KIM GUADAGNO  
*Lt. Governor*

November 26, 2013

To: Distribution List

Re: **Final** Surface Water Master General Permit Renewal - Statewide  
Category: B4B -General Permit Groundwater Petroleum Product Cleanup  
NJPDES Permit No. NJ0102709

This letter serves to provide notice that the **final** New Jersey Pollutant Discharge Elimination System (NJPDES) permit action identified above has been issued in accordance with N.J.A.C. 7:14A. This permit renewal authorizes the discharge of remediated groundwater resulting from petroleum product contamination to surface waters of the state. This master general permit serves to renew the existing general petroleum product clean-up permit which expires on December 31, 2013.

The Department issued a notification on October 17, 2013 to inform all permittees, applicants, applicant agents, and other interested parties of the release of the draft permit. Notice of this draft action also appeared in three (3) newspapers to represent all New Jersey counties and was published in the Department's October 16, 2013 DEP Bulletin. The public comment period closed on November 22, 2013. The Department did not receive any comments on the draft permit action.

You can find a complete copy of this final permit action on the Department's web site at [www.state.nj.us/dep/dwq](http://www.state.nj.us/dep/dwq) under General Petroleum Products Clean-up permit. If you would prefer that a paper copy of the final permit be mailed to you, please contact Deanna Carabelli of the Bureau of Surface Water Permitting at (609) 292-4860.

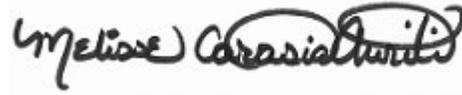
Attached is a list of facilities for which the Department has received renewal applications thus far. The Department intends to issue renewal authorizations for these facilities where the renewal authorization will become effective on January 1, 2014. Until such time as the new permit takes effect, the existing permit conditions will continue in full force and effect pursuant to N.J.A.C. 7:14A-2.8.

New applicants must REQUEST AUTHORIZATION to be covered under the general permit by submitting an application form and a B4B – Certification form that can be obtained from the Department's Division of Water Quality web site. A guidance checklist for filing a request for authorization application for this general permit is also available. The checklist and the application form are available at <http://www.state.nj.us/dep/dwq/forms.htm>.

Please note that the Department is incorporating one minor change into this final master permit as compared to the October 17, 2013 draft master permit. Specifically, the Department erroneously omitted the parameter toluene in Part III-Attachment of the draft master permit and is now including that parameter in the final master permit consistent with N.J.A.C. 7:14A-12, Appendix B.

If you have any questions or comments regarding the final action, please contact Robert Hall, Tara Klimowicz or Brian Salvo at (609) 292-4860.

Sincerely,

A handwritten signature in black ink that reads "Melisse Carasia Auriti". The signature is written in a cursive style with a large initial "M" and a stylized "A".

Melisse Carasia Auriti, Section Chief  
Bureau of Surface Water Permitting  
Division of Water Quality

### Renewal Authorization List

<b><u>No.</u></b>	<b><u>NJPDES No.</u></b>	<b><u>Township</u></b>	<b><u>County</u></b>
1.	NJG0000752	Woodbridge Township	Middlesex
2.	NJG0004049	Phillipsburg Township	Warren
3.	NJG0076511	Township of West Milford	Passaic
4.	NJG0103578	Deptford Township	Gloucester
5.	NJG0128520	West Windsor Township	Mercer
6.	NJG0134431	Burlington City	Burlington
7.	NJG0134660	West Milford	Passaic
8.	NJG0134929	Atlantic Highlands Borough	Monmouth
9.	NJG0136727	Clifton City	Passaic
10.	NJG0137901	Piscataway Township	Middlesex
11.	NJG0140457	Jersey City	Hudson
12.	NJG0155501	Livingston Township	Essex
13.	NJG0156523	Carteret Borough	Middlesex
14.	NJG0166693	Rockaway Borough	Morris
15.	NJG0168866	Dover Township	Morris
16.	NJG0168947	Dover Township	Morris
17.	NJG0169706	Pennsauken Township	Camden
18.	NJG0173614	Franklin Township	Gloucester
19.	NJG0175200	Hamilton Township	Mercer
20.	NJG0178276	Carteret Borough	Middlesex
21.	NJG0190616	Dumont Borough	Bergen
22.	NJG0194565	Summit City	Union
23.	NJG0201413	Newark City	Essex
24.	NJG0210897	Atlantic City	Atlantic
25.	NJG0219355	West Windsor Township	Mercer
26.	NJG0219673	Rockaway Borough	Morris
27.	NJG0220027	Hackensack City	Bergen
28.	NJG0220671	Belmar Borough	Monmouth
29.	NJG0220892	Dover Town	Morris

# Table of Contents

**This final master permit package contains the items listed below:**

- 1. Cover Letter**
- 2. Renewal Authorization List**
- 3. Table of Contents**
- 4. NJPDES Permit Authorization Page**
- 5. Part I – General Requirements: NJPDES**
- 6. Part II – General Requirements: Discharge Categories**
- 7. Part III – Limits and Monitoring Requirements**
- 8. Part III - Attachment**
- 9. Part IV – Specific Requirements: Narrative**
- 10. Appendix A: Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program (only applicable for those authorizations in which a whole effluent toxicity limit is specified)**



# NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

**Permit Number: NJ0102709**

**Final: Surface Water Master General Permit Renewal**

**Permittee:**

NJPDES Master General Permit Program Interest  
Category B4B  
Per Individual Notice of Authorization  
Division of Water Quality  
Mail Code: 401-02B  
P.O. Box 420  
401 East State Street  
Trenton, NJ 08625

**Property Owner:**

NJPDES Master General Permit Program Interest  
Category B4B  
Per Individual Notice of Authorization  
Division of Water Quality  
Mail Code: 401-02B  
P.O. Box 420  
401 East State Street  
Trenton, NJ 08625

**Location Of Activity:**

NJPDES Master General Permit Program Interest  
Category B4B  
Per Individual Notice of Authorization  
Division of Water Quality  
Mail Code: 401-02B  
P.O. Box 420  
401 East State Street  
Trenton, NJ 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
B4B - General Permit GW Petro Prod Cleanup	11/26/2013	01/01/2014	12/31/2018

**By Authority of:  
Commissioner's Office**

**DEP AUTHORIZATION  
Melisse Carasia Auriti, Section Chief  
Bureau of Surface Water Permitting  
Division of Water Quality**

(Terms, conditions and provisions attached hereto)

Division of Water Quality

## PART I GENERAL REQUIREMENTS: NJPDES

### A. General Requirements of all NJPDES Permits

#### 1. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.
- b. General Conditions
- |   |                                     |
|---|-------------------------------------|
| Penalties for Violations                            | N.J.A.C. 7:14-8.1 <u>et seq.</u>    |
| Incorporation by Reference                          | N.J.A.C. 7:14A-2.3                  |
| Toxic Pollutants                                    | N.J.A.C. 7:14A-6.2(a)4i             |
| Duty to Comply                                      | N.J.A.C. 7:14A-6.2(a)1 & 4          |
| Duty to Mitigate                                    | N.J.A.C. 7:14A-6.2(a)5 & 11         |
| Inspection and Entry                                | N.J.A.C. 7:14A-2.11(e)              |
| Enforcement Action                                  | N.J.A.C. 7:14A-2.9                  |
| Duty to Reapply                                     | N.J.A.C. 7:14A-4.2(e)3              |
| Signatory Requirements for Applications and Reports | N.J.A.C. 7:14A-4.9                  |
| Effect of Permit/Other Laws                         | N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c) |
| Severability  | N.J.A.C. 7:14A-2.2                  |
| Administrative Continuation of Permits              | N.J.A.C. 7:14A-2.8                  |
| Permit Actions                                      | N.J.A.C. 7:14A-2.7(c)               |
| Reopener Clause                                     | N.J.A.C. 7:14A-6.2(a)10             |
| Permit Duration and Renewal                         | N.J.A.C. 7:14A-2.7(a) & (b)         |
| Consolidation of Permit Process                     | N.J.A.C. 7:14A-15.5                 |
| Confidentiality                                     | N.J.A.C. 7:14A-18.2 & 2.11(g)       |
| Fee Schedule  | N.J.A.C. 7:14A-3.1                  |
| Treatment Works Approval                            | N.J.A.C. 7:14A-22 & 23              |
- c. Operation And Maintenance
- |                                      |                       |
|--------------------------------------|-----------------------|
| Need to Halt or Reduce not a Defense | N.J.A.C. 7:14A-2.9(b) |
| Proper Operation and Maintenance     | N.J.A.C. 7:14A-6.12   |
- d. Monitoring And Records
- |   |                    |
|---|--------------------|
| Monitoring                                    | N.J.A.C. 7:14A-6.5 |
| Recordkeeping                                 | N.J.A.C. 7:14A-6.6 |
| Signatory Requirements for Monitoring Reports | N.J.A.C. 7:14A-6.9 |
- e. Reporting Requirements
- |   |                                       |
|---|---------------------------------------|
| Planned Changes                               | N.J.A.C. 7:14A-6.7                    |
| Reporting of Monitoring Results               | N.J.A.C. 7:14A-6.8                    |
| Noncompliance Reporting                       | N.J.A.C. 7:14A-6.10 & 6.8(h)          |
| Hotline/Two Hour & Twenty-four Hour Reporting | N.J.A.C. 7:14A-6.10(c) & (d)          |
| Written Reporting                             | N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h) |
| Duty to Provide Information                   | N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1  |
| Schedules of Compliance                       | N.J.A.C. 7:14A-6.4                    |
| Transfer                                      | N.J.A.C. 7:14A-6.2(a)8 & 16.2         |

## **PART II**

# **GENERAL REQUIREMENTS: DISCHARGE CATEGORIES**

### **A. Additional Requirements Incorporated By Reference**

#### **1. Requirements for Discharges to Surface Waters**

- a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.
  - i. Surface Water Quality Standards N.J.A.C. 7:9B-1

### **B. General Conditions**

#### **1. Scope**

- a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

#### **2. Permit Renewal Requirement**

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application: 180 days before the the Expiration Date.

#### **3. Notification of Non-Compliance**

- a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).
- b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

#### **4. Notification of Changes**

- a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.
- b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

#### **5. Access to Information**

- a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

**6. Operator Certification**

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.
  - i. Notifications shall be submitted to:  
NJDEP  
Bureau of Licensing and Pesticide Operations  
Mail Code 401-04E  
P.O. Box 420  
Trenton, New Jersey 08625-0420  
(609) 984-6507
- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

**7. Operation Restrictions**

- a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

**8. Residuals Management**

- a. The permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under N.J.A.C. 7:14A-6.15(a), which includes:
  - i. Standards for the Use or Disposal of Residual, N.J.A.C. 7:14A-20;
  - ii. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;
  - iii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;
  - iv. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14C;
  - v. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and
  - vi. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan.
  - vii. Residual that is disposed in a municipal solid waste landfill unit shall meet the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)

- b. If any applicable standard for residual use or disposal is promulgated under section 405(d) of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal.
- c. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.
- d. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department.
- e. The preparer must notify and provide information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements to the person who applies bulk residual to the land. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C. 7:14A-20.7(j).
- f. The preparer who provides biosolids to another person who further prepares the biosolids for application to the land must provide this person with notification and information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements.
- g. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)1.ix to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

## PART III

# LIMITS AND MONITORING REQUIREMENTS

**MONITORED LOCATION:**

AB4B Table 1

**RECEIVING STREAM:**

Varies

**STREAM CLASSIFICATION:**

**DISCHARGE CATEGORY(IES):**

B4B - General Permit GW Petro Prod  
Cleanup

**Location Description**

This table is utilized for remediation discharges into eligible waters classified as FW2-NT, FW2-TM, FW2-TP, SE or SC where petroleum related constituents are present. Other metals, volatile organics, acid extractables, base-neutrals and pesticides may also be present and will be included based on the limits referenced in Part III - Attachment.

**Contributing Waste Types**

Groundwater Remediation

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Comments:**

Sampling frequency can be reduced to quarterly for renewal authorizations given consistent compliance; Limits are applied as needed where parameters are detected at quantities comparable to the remediation standards; 3 year WET compliance schedule for new authorizations beginning with the start of discharging when metals are limited; TSS limit varies

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE:** Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	*****	*****	*****	*****	1/Month	Metered
	January thru December	QL	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Monthly Minimum	*****	9.0 Monthly Maximum	SU	1/Quarter	Grab
	January thru December	QL	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	40 Daily Maximum	MG/L	1/Month	Grab
	January thru December	QL	***		***	***	***			
IC25 Statre 7day Chr Ceriodaphnia	Effluent Gross Value	*****	*****	*****	61 Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
	January thru December	QL	***		***	***	***			

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Comments:**

Sampling frequency can be reduced to quarterly for renewal authorizations given consistent compliance; Limits are applied as needed where parameters are detected at quantities comparable to the remediation standards; 3 year WET compliance schedule for new authorizations beginning with the start of discharging when metals are limited; TSS limit varies

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**

PHASE: Final		PHASE Start Date:		PHASE End Date:						
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Petroleum Hydrocarbons	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	1/Quarter	Grab
	January thru December	QL	***		***	***	***			
Carbon, Tot Organic (TOC)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	20 Daily Maximum	MG/L	1/Month	Grab
	January thru December	QL	***		***	***	***			
Naphthalene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	1/Month	Grab
	January thru December	RQL	***		***	***	8			
Methyl tert-butyl Ether	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	70 Daily Maximum	UG/L	1/Month	Grab
	January thru December	QL	***		***	***	***			
Benzene	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	7 Daily Maximum	UG/L	1/Month	Grab
	January thru December	RQL	***		***	***	7			
Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	*****	*****	*****	500 Quarterly Average	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
	January thru December	QL	***		***	***	***			

**MONITORED LOCATION:**

BB4B Table 2

**RECEIVING STREAM:**

Varies

**STREAM CLASSIFICATION:**

**DISCHARGE CATEGORY(IES):**

B4B - General Permit GW Petro Prod  
Cleanup

**Location Description**

This table is utilized for short term dewatering or pump test discharges into eligible waters classified as FW2-NT, FW2-TM, FW2-TP, SE or SC where petroleum related constituents are present. Other metals, volatile organics, acid extractables, base-neutrals and pesticides may also be present and will be included based on the limits referenced in Part III - Attachment.

**Contributing Waste Types**

Ground Water Treatment

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Comments:**

Limits are applied as needed where parameters are detected at quantities comparable to the remediation standards at N.J.A.C. 7:14A-12, Appendix B; No Chronic WET; TSS limit varies.

**Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE:** Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	*****	*****	*****	*****	1/4 Days	Metered
	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Monthly Minimum	*****	9.0 Monthly Maximum	SU	1/4 Days	Grab
	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	40 Daily Maximum	MG/L	1/4 Days	Grab
	QL	***	***		***	***	***			
Petroleum Hydrocarbons	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	1/4 Days	Grab
	QL	***	***		***	***	***			

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Comments:**

Limits are applied as needed where parameters are detected at quantities comparable to the remediation standards at N.J.A.C. 7:14A-12, Appendix B; No Chronic WET; TSS limit varies.

**Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE:**Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Carbon, Tot Organic (TOC)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	20 Daily Maximum	MG/L	1/4 Days	Grab
	QL	***	***		***	***	***			
Naphthalene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	1/4 Days	Grab
	January thru December	RQL	***		***	***	8			
Methyl tert-butyl Ether	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	70 Daily Maximum	UG/L	1/4 Days	Grab
	January thru December	QL	***		***	***	***			
Benzene	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	7 Daily Maximum	UG/L	1/4 Days	Grab
	January thru December	RQL	***		***	***	7			
Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	*****	*****	*****	REPORT Quarterly Average	500 Monthly Average	REPORT Daily Maximum	UG/L	1/4 Days	Grab
	January thru December	QL	***		***	***	***			

**MONITORED LOCATION:**

CB4B Table 3

**RECEIVING STREAM:**

Varies

**STREAM CLASSIFICATION:**

**DISCHARGE CATEGORY(IES):**

B4B - General Permit GW Petro Prod  
Cleanup

**Location Description**

This table is utilized for remediation discharges into waters classified as C1 (Category 1) .

**Contributing Waste Types**

Ground Water Treatment

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Comments:**

Limits are applied as needed where parameters are detected; Chronic WET requirements will be imposed in the event that any metals are detected; 3 year WET compliance schedule for new authorizations beginning with the start of discharging when metals are limited.

**Table III - C - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE:**Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant January thru December	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	*****	*****	*****	*****	1/2 Weeks	Metered
	QL	***	***		***	***	***			
pH January thru December	Effluent Gross Value	*****	*****	*****	6.5 Monthly Minimum	*****	8.5 Monthly Maximum	SU	1/2 Weeks	Grab
	QL	***	***		***	***	***			
Solids, Total Suspended January thru December	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	25 Daily Maximum	MG/L	1/2 Weeks	Grab
	QL	***	***		***	***	***			
Petroleum Hydrocarbons January thru December	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	1/2 Weeks	Grab
	QL	***	***		***	***	***			
Carbon, Tot Organic (TOC) January thru December	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	20 Daily Maximum	MG/L	1/2 Weeks	Grab
	QL	***	***		***	***	***			

**Surface Water DMR Reporting Requirements:**

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

**Comments:**

Limits are applied as needed where parameters are detected; Chronic WET requirements will be imposed in the event that any metals are detected; 3 year WET compliance schedule for new authorizations beginning with the start of discharging when metals are limited.

**Table III - C - 1: Surface Water DMR Limits and Monitoring Requirements**

**PHASE:** Final

**PHASE Start Date:**

**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Naphthalene January thru December	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	8 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***		***	8	8			
Methyl tert-butyl Ether January thru December	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	70 Daily Maximum	UG/L	1/2 Weeks	Grab
	QL	***	***		***	***	***			
Benzene January thru December	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	7 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***		***	7	7			
Tertiary Butyl Alcohol (TBA) January thru December	Effluent Gross Value	*****	*****	*****	*****	100 Monthly Average	REPORT Daily Maximum	UG/L	1/2 Weeks	Grab
	QL	***	***		***	***	***			

**Other Pollutants That May Be Limited**

In addition to complying with the effluent limitations and monitoring conditions of Table 1, 2 and 3 on the preceding pages, any other parameters indicated below may also be limited in an individual authorization. These additional parameters will be included in Part III of the individual authorization. All units are in µg/L. MR is defined as monitoring and reporting is required.

<b>Parameter</b>	<b><u>FW2 Waters</u></b>		<b><u>SE, SC Waters</u></b>		<b><u>RQL*</u></b>
	Monthly / Daily Average / Maximum		Monthly / Daily Average / Maximum		
<b><i>Volatile Organics</i></b>					
Acrolein	MR	100	MR	100	50
Acrylonitrile	MR	50	MR	50	50
Bromoform	MR	8.6	29	58	8
Carbon Tetrachloride	MR	6	8.8	MR	6
Chlorobenzene	15	28	15	28	6
Chlorodibromomethane	MR	8.2	MR	14	6
Chlorethane	104	268	104	268	-
Chloroform	MR	11.4	21	46	5
Dichlorobromomethane	MR	5	MR	12	5
1,1-Dichloroethane	22	59	22	59	23.5
1,2-Dichloroethane	MR	3	68	211	3
1, 1-Dichloroethylene	MR	6	16	25	6
1,2-Dichloropropane	153	230	153	230	-
1,3-Dichloropropylene	10	20	29	44	-
Ethylbenzene	32	108	32	108	6
Methyl Bromide	20	40	20	40	9
Methyl Chloride	86	190	86	190	10
Methylene Chloride	MR	9.4	40	89	6
1,1,2,2 Tetrachloroethane	MR	10	MR	10	10
Tetrachloroethylene	MR	16	22	56	9
Toluene	26	80	26	80	6
1,2-Trans-Dichloroethylene	21	54	21	54	4
1,1,1-Trichloroethane	21	54	21	54	6
1,1,2-Trichloroethane	MR	12	21	54	6
Trichloroethylene	MR	5.4	21	54	5
Vinyl Chloride	MR	10	104	268	10
<b><i>Acid Compounds</i></b>					
2-Chlorophenol	31	98	31	98	20
2,4 Dichlorophenol	39	112	39	112	10
2,4 Dimethylphenol	18	36	18	36	13.5
4,6 Dinitro-O-Cresol	MR	60	78	277	60
2,4 Dinitrophenol	71	123	71	123	40
2-Nitrophenol	41	69	41	69	18
4-Nitrophenol	72	124	72	124	12
Pentachlorophenol	MR	30	MR	30	30
Phenol	15	26	15	26	10
2,4,6 Trichlorophenol	MR	20	MR	20	20

<b>Parameter</b>	<b><u>FW2 Waters</u></b>		<b><u>SE, SC Waters</u></b>		<b><u>RQL*</u></b>
	Monthly / <u>Average</u>	Daily <u>Maximum</u>	Monthly / <u>Average</u>	Daily <u>Maximum</u>	
<b><i>Base/Neutral Compounds</i></b>					
Anthracene	22	59	22	59	10
Benzidine	MR	50	MR	50	50
Benzo (a) Anthracene	MR	10	MR	10	10
Benzo (a) Pyrene	MR	20	MR	20	20
Benzo (b) fluoranthene	MR	10	MR	10	-
Benzo (k) fluoranthene	MR	20	MR	20	20
Bis (2-Chloroethyl) Ether	MR	10	MR	10	10
Bis (2-Chloroisopropyl) Ether	301	757	301	757	10
Bis (2-Ethylhexyl)Phthalate	MR	36	59	118	30
Butyl Benzyl Phthalate	MR	24	MR	24	20
Chrysene	MR	20	MR	20	20
Dibenzo (a,h) Anthracene	MR	20	MR	20	20
1,2 Dichlorobenzene	77	163	77	163	9
1,3 Dichlorobenzene	31	44	31	44	9
1,4 Dichlorobenzene	MR	28	MR	28	20
3,3 Dichlorobenzidine	MR	60	MR	60	60
Diethyl Phthalate	81	203	81	203	10
Dimethyl Phthalate	19	47	19	47	10
Di-N-Butyl Phthalate	27	57	27	57	20
2,4 Dinitrotoluene	MR	10	MR	18.2	10
2,6 Dinitrotoluene	255	641	255	641	9.5
Fluoranthene	25	68	25	68	10
Fluorene	22	59	22	59	10
Hexachlorobenzene	MR	10	MR	10	10
Hexachlorobutadiene	MR	10	20	49	10
Hexchloropentadiene	240	480	MR	1800	10
Hexachloroethane	19	38	21	54	10
Ideno (1,2,3-cd) Pyrene	MR	20	MR	20	20
Isophorone	MR	20	MR	20	10
Nitrobenzene	17	34	27	68	10
N-Nitrosodimethylamine	MR	20	MR	20	20
N-Nitrosodiphenylamine	MR	20	MR	20	20
Phenanthrene	22	59	22	59	10
Pyrene	25	67	25	67	20
1,2,4 Trichlorobenzene	68	140	68	140	10
<b><i>Pesticides</i></b>					
Aldrin	MR	0.04	MR	0.04	0.04
Alpha-BHC	MR	0.02	MR	0.02	0.02
Beta-BHC	0.137	0.274	0.46	0.92	0.04
Gamma-BHC (Lindane)	MR	0.08	MR	0.03	0.03
Chlordane	MR	0.2	MR	0.2	0.2

Parameter	<u>FW2 Waters</u>		<u>SE, SC Waters</u>		<u>RQL*</u>
	Monthly / Daily		Monthly / Daily		
	Average /	Maximum	Average/	Maximum	
<b>Pesticides (continued)</b>					
4,4'-DDT	MR	0.06	MR	0.06	0.06
4,4'-DDE	MR	0.04	MR	0.04	0.04
4,4'-DDD	MR	0.04	MR	0.04	0.04
Dieldrin	MR	0.03	MR	0.03	0.03
Alpha-Endosulfan	MR	0.02	MR	0.02	0.02
Beta-Endosulfan	MR	0.04	MR	0.04	0.04
Endosulfan Sulfate	0.93	1.86	2	4	0.08
Endrin	MR	0.04	MR	0.04	0.04
Endrin Aldehyde	0.76	1.52	0.81	1.62	0.1
Heptachlor	MR	0.02	MR	0.02	0.02
Heptachlor Epoxide	MR	0.4	MR	0.4	0.4
Toxaphene	MR	1	MR	1	1
<b>Metals and Cyanide</b>					
Arsenic **	50	100	50	100	8
Cadmium **	50	100	50	100	4
Chromium **	50	100	50	100	10
Copper **	50	100	50	100	10
Lead** (1)	37	79	37	79	10
Mercury **	MR	1	MR	1	1
Nickel **	72	144	50	100	10
Selenium **	50	100	50	100	10
Silver **	25	50	25	50	2
Zinc **	100	200	100	200	30
Cyanide	100	200	100	200	40

\* The permittee shall ensure that analytical data is sampled at detection levels as sensitive as the Recommended Quantitation Levels (RQL's) for any of the above parameters limited in the individual authorization. In the event that any of these parameters are included for Table 3 discharges, the effluent limit shall be set at the RQL.

\*\* If this parameter is regulated in the individual authorization, a chronic WET limit is also applicable for Tables 1 and 3.

- (1) **For renewal authorizations:** The lead daily maximum effluent limitation of 10 µg/L continues to be applicable to those discharges where lead is shown to be detectable in the permittee's GPPC permit application or in other available data. This limit is consistent with the 2008 master general permit and is appropriate pursuant to N.J.A.C. 7:14A-13.19.

**For new authorizations:** The lead effluent limitation of 37 µg/L as a monthly average and 79 µg/L as a daily maximum are only applicable for those discharges where lead is shown to be detectable in the permittee's GPPC permit application or in other available data. The Department has determined that it is beneficial and appropriate to include a limit as a monthly average. These limits are consistent with the 2008 master general permit.

## PART IV

# SPECIFIC REQUIREMENTS: NARRATIVE

### General Permit GW Petro Prod Cleanup

#### A. MONITORING REQUIREMENTS

##### 1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136 unless other test procedures have been approved in writing or as otherwise specified in the permit. Further information regarding analytical testing methods can be found at <http://water.epa.gov/scitech/methods/cwa/index.cfm>. If you have further questions or comments regarding analytical methods, please contact NJDEP, Office of Quality Assurance at (609) 292-3950.
- c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. QLs include, but are not limited to, Recommended Quantification Levels (RQLs) and Method Detection Levels (MDLs). If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the Bureau of Surface Water Permitting. For limited parameters with no QL specified, the sample analysis shall use a detection level at least as sensitive as the effluent limit.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- g. If applicable, annual wastewater testing shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.
- h. Flow shall be measured using a meter unless specified otherwise in the individual authorization.

#### B. RECORDKEEPING

##### 1. Standard Recordkeeping Requirements

- a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.
- b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

## C. REPORTING

### 1. Standard Reporting Requirements

- a. The permittee shall submit all required monitoring results to the Department on the forms provided to them. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. Any MRFs in paper format shall be submitted to the following addresses:
  - i. NJDEP  
Division of Water Quality  
Bureau of Permit Management  
Mailcode 401-02B  
P.O. Box 420  
Trenton, New Jersey 08625-0420
  - ii. (if requested by the Water Compliance and Enforcement Bureau)  
NJDEP: Northern Bureau of Water Compliance and Enforcement  
7 Ridgedale Avenue  
Cedar Knolls, New Jersey 07927  
(Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren)  
NJDEP: Central Bureau of Water Compliance and Enforcement  
Mail Code: 44-03  
22 South Clinton Avenue  
P.O. Box 420  
Trenton, NJ 08625-0420  
(Counties of Mercer, Middlesex, Monmouth, Ocean and Union)  
NJDEP: Southern Bureau of Water Compliance and Enforcement  
2 Riverside Drive, Suite 201  
Camden, New Jersey 08103  
(Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem)
- c. Any electronic data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.

- d. All monitoring report forms shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- e. The highest ranking official may delegate responsibility to certify the monitoring report forms in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- f. Monitoring results shall be submitted in accordance with the current NJPDES Monitoring Report Form (MRF) Reference Manual and any updates thereof.
- g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.
- h. If there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

## **D. FACILITY MANAGEMENT**

### **1. Discharge Requirements**

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee shall not discharge foam or cause foaming of the receiving water that: 1) Forms objectionable deposits on the receiving water, 2) Forms floating masses producing a nuisance, or 3) Interferes with a designated use of the waterbody.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.
- e. When quantification levels (QL) and effluent limits are both specified for a given parameter in Part III, and the QL is less stringent than the effluent limit, effluent compliance will be determined by comparing the reported value against the QL.

### **2. Operation, Maintenance and Emergency conditions**

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit as specified in the Operation & Maintenance Manual.
- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with NJAC 7:14A-6.12(d).

### **3. Applicability of Discharge Limitations and Effective Dates**

- a. Surface Water Discharge Monitoring Report (DMR) Form Requirements

- i. Table 1: Chronic WET (if both the chronic WET requirement and a compliance schedule is applicable in the individual authorization) - For new authorizations, the initial phase requirement of monitoring and reporting as a minimum is effective on the effective date of the individual authorization. The final phase limit of 61% is effective three years from the date of commencement of pumping as specified in the individual authorizations. For renewal authorizations, the final limit becomes effective on the date specified in the individual authorization.

**4. Toxicity Testing Requirements - Chronic Whole Effluent Toxicity (applicable only if a chronic toxicity requirement is specified in Part III)**

- a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- b. Chronic toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- c. Any test that does not meet the specifications contained in the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Program" document must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- d. IC25 - Inhibition Concentration - Concentration of effluent which has an inhibitory effect on 25% of the test organisms for the monitored effect, as compared to the control (expressed as percent effluent).
- e. Test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing endpoint yields IC25's from more than one test endpoint, the most sensitive endpoint will be used to evaluate effluent toxicity.
- f. For new authorizations: Submit a Chronic Methodology Questionnaire: within 60 days from the effective date of the permit (EDP).
- g. For renewal authorizations: The permittee shall resubmit a Chronic Methodology Questionnaire within 60 days of any change in laboratory.
- h. If a quarterly monitoring frequency is specified for Chronic WET: Submit a chronic whole effluent toxicity test report: due within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).
- i. If an annual monitoring frequency is specified for Chronic WET: Submit a chronic whole effluent toxicity test report: due within twenty-five days after the end of every annual monitoring period beginning from the effective date of the permit.
- j. Test reports shall be submitted to:
  - i. New Jersey Department of Environmental Protection  
Division of Water Quality  
Bureau of Surface Water Permitting  
Mail Code: 401-02B  
P.O. Box 420  
Trenton, New Jersey 08625-0420

**5. Toxicity Reduction Implementation Requirements (TRIR) (applicable only if a chronic toxicity limit is specified in Part III)**

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity limit specified in Part III of this permit.
  - i. If the exceedence of the toxicity limit is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limits in Part III. The monitoring frequency for toxicity testing shall be increased to semi-monthly (i.e. every two months). Up to 12 additional tests may be required.
  - i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity limit.
  - ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit in Part III, the permittee shall repeat the Toxicity Reduction Implementation Requirements.
- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the fourth exceedence of the toxicity limit specified in Part III during the toxicity characterization.
  - i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.
  - ii. As appropriate, the PTI shall include:
    - (1) treatment plant performance evaluation,
    - (2) evaluation of chemical use and processes at the facility, and
    - (3) an evaluation of toxic pollutants present in the effluent.
  - iii. The permittee shall submit a Preliminary Toxicity Identification Notification within 15 months of triggering TRIR. This notification shall include a determination that the permittee intends to demonstrate compliance OR plans to initiate a CTI.
- d. The permittee must demonstrate compliance with the WET limitation in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.
- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit in Part III can not be made.
  - i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.

- ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit in Part III , a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
  - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
  - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.
- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.
- i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit in Part III in four consecutive toxicity tests.
  - ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit in Part III, the permittee shall submit a plan for resuming the CTI.
  - iii. Documents regarding Toxicity Investigations shall be sent to the following:  
New Jersey Department of Environmental Protection  
Mail Code: 401-02B  
Division of Water Quality  
Bureau of Surface Water Permitting  
401 East State Street  
P.O. Box 420  
Trenton, New Jersey 08625-0420

## **E. Conditions for modification**

### **1. Causes for modification**

- a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.
- b. For new dischargers where a chronic whole effluent toxicity requirement is imposed - the Department may issue a minor modification further deferring the effective date of the chronic whole effluent toxicity limitation if a facility is implementing the Toxicity Reduction Implementation Requirements (TRIR) in Part IV of this permit.
- c. The Department may modify individual authorizations under this permit through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1 to reduce WET monitoring to either semi-annual, annual or once per permit cycle. The criteria for such reduction is a minimum of 4 data points with a result of >100. The Department may also consider site-specific characteristics such as discharge volume, location and wastewater constituents.

- d. The Department may modify individual authorizations under this permit through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1 to reduce toxics and conventionals monitoring to quarterly or an alternate monitoring frequency provided that all parameters are consistently in compliance.

## **F. Custom Requirements**

### **1. Third Party Storm Sewers**

- a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, please note that this GPPC permit authorization to discharge does not exempt, nor shall be construed to exempt, the permittee from compliance with rules, regulations, policies, and/or laws lodged in any agency or subdivision of the state having legal jurisdiction over the storm sewer system proposed for use as a wastewater conveyance.

### **2. Permanent Cessation of Discharge to Surface Waters**

- a. If the permittee permanently discontinues its discharge to surface waters for 30 days or more the appropriate Regional Bureau of Water and Compliance Enforcement shall be notified:
  - i. NORTHERN BUREAU (Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren ) - (973) 656-4099.
  - ii. CENTRAL BUREAU (Counties of Mercer, Middlesex, Monmouth, Ocean and Union) - (609) 292-3010.
  - iii. SOUTHERN BUREAU (Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem) - (856) 614-3655.

### **3. Revocation of an Individual Authorization under the GPPC Permit.**

- a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the GPPC permit. The permittee can obtain the necessary revocation forms by accessing [www.state.nj.us/dep/dwq](http://www.state.nj.us/dep/dwq) or by contacting the Department's Office of Permit Management at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.
- b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee.
- c. For short term discharges covered under Table 2, the individual authorization will expire consistent with the permit expiration date without the permit revocation procedure described in b. above.

### **4. Use of Treatment Additives**

- a. If a permittee proposes addition of any chemical or treatment enhancement product in its treatment system in order to enhance treatment effectiveness and system performance, the permittee must obtain permission from the Department in writing prior to use of such compounds.

- b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall include a material safety data sheet for the product(s) that contains toxicological data. The letter shall be submitted to the appropriate Bureau of Surface Water Permitting where the address for such is included in the cover letter of the individual authorization. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for the purposes of improving treatment system performance.

#### **5. Operational Requirements**

- a. The treatment works shall operate at the optimal average design flow rate for maximum groundwater clean-up.
- b. No backwash from any treatment unit(s) for maintenance purposes or any other reasons shall be discharged through the authorized outfall(s).
- c. The permittee shall not attain any effluent limitations by dilution pursuant to N.J.A.C. 7:14A-6.2. Specifically, the permittee shall not pump from a recovery well and divert such waters to the treatment system for the purposes of diluting groundwater from other contaminated recovery wells.
- d. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge.

NJPDES MASTER GENERAL PERMIT PROGRAM INTEREST, Trenton

Permit No.NJ0102709  
DSW130001 Surface Water Master General Permit Renewal

**APPENDIX A:**

**CHRONIC TOXICITY TESTING SPECIFICATIONS  
FOR USE IN THE NJPDES PERMIT PROGRAM**

**Version 2.1**

**May 1997**

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  - G. *Champia parvula*, Sexual Reproduction Test, method 1009.0
- VIII. REFERENCES**

Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

## I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-6.5(a)2 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, constitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements not sufficiently clarified in those methods documents and also serves to outline and implement the interlaboratory Standard Reference Toxicant Program until a formal laboratory certification program is established under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and test organism specific method specifications contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

Testing shall be in conformance with the subchapter on chronic toxicity testing within the N.J.A.C. 7:18 when such regulations become effective. The laboratory performing the toxicity testing shall be within the chronic toxicity testing laboratory certification program to be established under that subchapter, when it becomes effective.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Part IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the second version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves. However, in keeping with the Department's continued emphasis on good laboratory practices and quality control, the areas addressing the Standard Reference Toxicant Program, data analysis and data reporting, have been significantly revised.

## II. GENERAL CONDITIONS

### A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures, glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

### B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. If hypothesis testing will be used to determine the test endpoint, one effluent concentration shall be the chronic permit limitation, unless the existing data for the discharge indicate that the NOEC is expected to be significantly less than the permit limit. The use of the 0.5 dilution factor may require more than five dilutions to cover the entire range of effluent concentrations as well as the chronic permit limit, since the permit limit will often not be one of the nominal concentrations in a 0.5 dilution series. In such an instance, the 0.5 dilution series may be altered by including an additional test concentration equal to the permit limit in the dilution series, or by changing the concentration closest to the permit toxicity limit to be equal to that limit. The Department recommends the use of the 0.75 dilution factor using Table 1.0 to determine test concentrations. That table establishes test concentrations based on the chronic toxicity limitation.

For either the 0.5 or 0.75 dilution factor, there shall be at least one test concentration above the permit limitation and at least three test concentrations below the permit limit along with the dilution water control unless the permit limitation prohibits such (e.g., limitations greater than 75% effluent). An effort shall be made to bracket the anticipated test result.

To use Table 1.0, locate the permit limit in column 4. The dilution series becomes the row that corresponds to the permit limit in column 4. For example, a permit limit of 41 would require a dilution series of the dilution water control, 17%, 23%, 31%, 41% and 55% effluent.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included, the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

**Table 1.0: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT**

			Permit Limit					Permit Limit			
Col #	1	2	3	4	5	Col #	1	2	3	4	5
	0.4	0.6	0.8	1	1.3		22	29	38	51	68
	0.8	1.1	1.5	2	2.7		22	29	39	52	69
	1.3	1.7	2.3	3	4		22	30	40	53	71
	1.7	2.3	3	4	5.3		23	30	41	54	72
	2.1	2.8	3.8	5	6.7		23	31	41	55	73
	2.5	3.4	4.5	6	8		24	32	42	56	75
	3	4	5	7	9		24	32	43	57	76
	3	5	6	8	11		24	33	44	58	77
	4	5	7	9	12		25	33	44	59	79
	4	6	8	10	13		25	34	45	60	80
	5	6	8	11	15		26	34	46	61	81
	5	7	9	12	16		26	35	47	62	83
	5	7	10	13	17		27	35	47	63	84
	6	8	11	14	19		27	36	48	64	85
	6	8	11	15	20		27	37	49	65	87
	7	9	12	16	21		28	37	50	66	88
	7	10	13	17	23		28	38	50	67	89
	8	10	14	18	24		29	38	51	68	91
	8	11	14	19	25		29	39	52	69	92
	8	11	15	20	27		30	39	53	70	93
	9	12	16	21	28		30	40	53	71	95
	9	12	17	22	29		30	41	54	72	96
	10	13	17	23	31		31	41	55	73	97
	10	14	18	24	32		31	42	56	74	99
	11	14	19	25	33		32	42	56	75	100
	11	15	20	26	35	24	32	43	57	76	
	11	15	20	27	36	24	32	43	58	77	
	12	16	21	28	37	25	33	44	59	78	
	12	16	22	29	39	25	33	44	59	79	
	13	17	23	30	40	25	34	45	60	80	
	13	17	23	31	41	26	34	46	61	81	
	14	18	24	32	43	26	35	46	62	82	
	14	19	25	33	44	26	35	47	62	83	
	14	19	26	34	45	27	35	47	63	84	
	15	20	26	35	47	27	36	48	64	85	
	15	20	27	36	48	27	36	48	65	86	
	16	21	28	37	49	28	37	49	65	87	
	16	21	29	38	51	28	37	50	66	88	
	16	22	29	39	52	28	38	50	67	89	
	17	23	30	40	53	28	38	51	68	90	
	17	23	31	41	55	29	38	51	68	91	
	18	24	32	42	56	29	39	52	69	92	
	18	24	32	43	57	29	39	52	70	93	
	19	25	33	44	59	30	40	53	71	94	
	19	25	34	45	60	30	40	53	71	95	
	19	26	35	46	61	30	41	54	72	96	
	20	26	35	47	63	31	41	55	73	97	
	20	27	36	48	64	31	41	55	74	98	
	21	28	37	49	65	31	42	56	74	99	
	21	28	38	50	67	32	42	56	75	100	

\* Select the dilution series by finding the row which contains the permit limit in column #4.  
NOTE: All values are in units of "% effluent" not toxic units.

## C. DILUTION WATER

### 1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of a dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt, except for *Champia parvula*, which shall be tested at 30 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

### 2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is strongly recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with a reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 µg/l selenium (2 µg/l selenium with natural water) and 1 µg/l vitamin B12 is recommended (Keating and Dagbusan, 1984; Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department. Reconstituted water and DMW should be prepared with Millipore Super Q<sup>R</sup> or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

## D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For industrial dischargers with a combined process/sanitary waste stream, effluent sampling shall be after chlorination, unless otherwise designated in the permit.

For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. At a minimum, three samples shall be collected as specified above, one every other day. The first sample shall be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample shall be used for the final three renewals. For the *Champia* and *Selenastrum* tests, a single sample shall be collected not more than 24 hours prior to test initiation. No effluent sample shall be over 72 hours old at the time of its use to initiate or renew solutions in a test. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire or as otherwise specified by the Department. The use of grab samples or other special sampling procedures will be based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted

to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

## **E. PHYSICAL CHEMICAL MEASUREMENTS**

At a minimum, the physical chemical measurements shall be as follows:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of the high, medium and low test concentrations and the control. In order to ensure that measurements for these parameters are representative of the test concentrations during the test, measurements for these parameters should be taken in an additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.
- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning of each 24 hr exposure period in at least one replicate for each treatment.
- Salinity shall be measured in all salt water tests at the beginning of each 24 hour exposure period, in at least one replicate for each treatment.
- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.
- Nitrite, nitrate and ammonia shall be measured in the control before each renewal in the mysid test only.
- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

## **F. STATISTICS**

The use of both hypothesis testing techniques and point estimate techniques are currently in use by the Department or by permittees for compliance purposes. The NJPDES permit should be checked to determine which type of analysis is required and appropriate for each specific facility. It is not acceptable to simply evaluate any data by "visual data review" unless in the analysis of survival data, no mortality occurred in the test. All data sets must be appropriately statistically evaluated.

For hypothesis testing techniques, statistical analysis shall follow the protocols in USEPA (1988, 1989) to evaluate adverse effects. A significance level of 0.05 shall be utilized to evaluate such effects. Use of a protocol not contained in these documents must be accompanied by a reference and explanation addressing its

applicability to the particular data set. Please note the following when evaluating data using hypothesis testing techniques.

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

**Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.**

Where hypothesis testing is used for compliance purposes, if the results of hypothesis testing indicate that a deviation from the dose response occurs such that two test concentrations are deemed statistically significant from the control but an intermediate test concentration is not, the test is deemed unacceptable and cannot be used for compliance testing purposes.

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (IC<sub>p</sub>) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate IC<sub>p</sub> values and not the bootstrap mean IC<sub>p</sub>, shall be reported for permit compliance purposes. The IC<sub>p</sub> value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC<sub>25</sub> values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the IC<sub>p</sub> method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the IC<sub>p</sub> is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC<sub>25</sub>'s can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC<sub>25</sub> value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC<sub>25</sub> value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC<sub>25</sub> value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

### III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet these acceptability criteria will not be used by the Department for any purpose and must be repeated as soon as practicable, with a freshly collected sample.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for acute toxicity testing under N.J.A.C. 7:18.
2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen or unrefrigerated samples or unapproved pretreatment of an effluent sample.
3. Controls shall meet the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.
4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.
5. No unapproved deviations from the applicable test methodology may be present.
6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

Table 2.0:

#### CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
<i>Pimephales promelas</i>	80%	0.25 mg avg	N/A
<i>Ceriodaphnia dubia</i>	80%	N/A	Average of $\geq 15$ young per surviving female
<i>Selenastrum capricornutum</i>	Density $\geq 2 \times 10^5$ cells/ml	N/A	Variability in controls not to exceed 20%.
<i>Cyprinodon variegatus</i>	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
<i>Menidia beryllina</i>	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
<i>Mysidopsis bahia</i>	80%	0.2 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.
<i>Champia parvula</i>	100%	N/A	$\geq 10$ cystocarps per plant Plants in controls and lower test concentrations shall not fragment so that individual plants cannot be identified.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

## IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program should be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals. Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, potassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

### A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward results of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to either address listed in the reporting requirements section herein. The initial series of a least five SRT tests for a specific test species method shall be completed and approved in writing by the Department prior to the conduct of any chronic toxicity testing for compliance purposes.

### B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purposes, subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing should be conducted once per month for each species/method.
2. Where the laboratory purchases organisms from a laboratory certified in New Jersey for the conduct of acute toxicity testing and approved for the conduct of chronic toxicity testing for the test organism in question (i.e. the "supplier laboratory"), SRT data provided by the "supplier laboratory" for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the "supplier laboratory" for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.
3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a quarterly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.
4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.
5. For industrial laboratories certified under N.J.A.C. 7:18 to conduct acute toxicity tests, only the SRT testing conditions specified in 2. through 4. above apply. Where that laboratory/facility cultures their own test organisms, the frequency of SRT testing required will be determined on a case by case basis, based on the frequency of testing for that facility.

NOTE: Based on these requirements, SRT data are considered applicable to a compliance test when the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test, for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

### **C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT**

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of at least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.
2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

### **D. CONTROL CHARTS**

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.
2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.
3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.
4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.
5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.
2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.
3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

#### **E. UNACCEPTABLE SRT TEST RESULTS**

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any ten tests, a report shall be forwarded to the Department at the address contained herein. This report shall include any identified problem which caused the values to fall outside the expected range and the corresponding actions that have been taken by the laboratory. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any ten test results which are outside the established upper and lower limits for a specific test species, the laboratory shall be unapproved to conduct chronic toxicity tests for compliance purposes for that test species. Reapproval shall be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

#### **F. ANNUAL SUBMITTALS**

Control charts shall be forwarded to the Department on an annual basis, on the anniversary of approval for the test species.

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

## V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory or at the request of the permittee, the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the appropriate biomonitoring program at the address above within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

## VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets for all endpoints analyzed shall be included with the report submitted to the Department. One copy of all chronic toxicity test report forms shall be submitted to the following address as applicable:

New Jersey Department of Environmental Protection  
Division of Water Quality  
Bureau of Surface Water Permitting  
Mailcode 401-02B  
PO Box 420  
Trenton, New Jersey 08625-0420

It is not necessary to attach a copy of a test report form to the Discharge Monitoring Report (DMR) form when submitting this form to the Department. However, the results of all chronic toxicity tests conducted for compliance purposes must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

## VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department, prior to their use.

- A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
- B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
- C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
- D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
- E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
- F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
- G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

## VIII. REFERENCES

1. Keating, K. 1985. The influence of Vitamin B12 deficiency on the reproduction of Daphnia pulex Leydig (Cladocera). J. Crustacean Biology 5:130-136.
2. Keating, K. 1988. N.J.D.E.P. Project C29589, Fiscal 1988 Third Quarter Summary Report. Producing Nutritionally Competent Daphnids for Use in Bioassay. 44p.
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4. NJDEP, 1993. Discharge Monitoring Report (DMR) Instruction Manual.
5. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-600/4-91-003. July 1994. Second Edition.
6. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. July 1994. Third Edition.

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Division of Water Quality  
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BIOMONITORING PROGRAM

**CHRONIC WHOLE EFFLUENT TOXICITY TESTING  
TEST CANCELLATION / RESCHEDULING EVENT FORM**

**THIS FORM IS TO BE COMPLETED AND SUBMITTED TO THE DEPARTMENT DIRECTLY BY THE  
LABORATORY CONDUCTING CHRONIC TOXICITY TESTS WHENEVER A CHRONIC TOXICITY TEST  
IS PREMATURELY ENDED FOR ANY REASON**

NJPDES No.: \_\_\_\_\_

FACILITY NAME: \_\_\_\_\_

LOCATION: \_\_\_\_\_

CONTACT: \_\_\_\_\_ PHONE: \_\_\_\_\_

**CANCELLATION EVENT:**

LABORATORY NAME / NUMBER: \_\_\_\_\_

CONTACT: \_\_\_\_\_

TEST START DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

TEST END DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

REASON FOR CANCELLATION: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**EFFLUENT SAMPLING:**

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: \_\_\_\_\_

SAMPLING INITIATED: DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_ TIME: \_\_\_\_\_

SAMPLING ENDED: DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_ TIME: \_\_\_\_\_

NUMBER OF EFFLUENT SAMPLES COLLECTED: \_\_\_\_\_

SAMPLE TYPE (GRAB/COMPOSITE): \_\_\_\_\_

RECEIVED IN LAB BY/FROM: \_\_\_\_\_

METHOD OF SHIPMENT: \_\_\_\_\_

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.