



State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE  
Governor

LISA P. JACKSON  
Commissioner

Division of Water Quality  
P.O. Box 029 Trenton, NJ 08625-0029  
Phone: (609) 633-3869  
Fax: (609) 984-7938

To: Distribution List

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Re: Final Surface Water Master General Permit Renewal  
Category: CG -Gen Non-Contact Cooling Water  
NJPDES Permit No. NJ0070203  
NJPDES MASTER GENERAL PERMIT PROGRAM INTEREST  
Trenton City, Mercer County

SEP 12 2006

Dear Permittee:

Enclosed is a **final** New Jersey Pollutant Discharge Elimination System (NJPDES) permit action identified above which has been issued in accordance with N.J.A.C. 7:14A.

A summary of the significant and relevant comments received on the draft action during the public comment period, the Department's responses, and an explanation of any changes from the draft action have been included in the Response to Comments document attached hereto as per N.J.A.C. 7:14A-15.16.

Any requests for an adjudicatory hearing shall be submitted in writing by certified mail, or by other means which provide verification of the date of delivery to the Department, within 30 days of receipt of this Surface Water Master General Permit Renewal in accordance with N.J.A.C. 7:14A-17.2. You may also request a stay of any contested permit condition as per N.J.A.C. 7:14A-17.6 *et seq.* The adjudicatory hearing request must be accompanied by a completed Adjudicatory Hearing Request Form; the stay request must be accompanied by a completed Stay Request Form. Copies of these forms can be downloaded from the Department's website at <http://www.nj.gov/dep/dwq>. Additionally, hard copies can be obtained by contacting the appropriate Bureau of Point Source Permitting region.

An individual authorization will be issued under a separate cover letter directly to those facilities on the enclosed list, provided they meet the conditions of the general NCCW permit.

Questions or comments regarding the final action should be addressed to Ben Manhas at (609) 633-3869.

Sincerely,

Howard B. Tompkins, Chief  
Bureau of Point Source Permitting Region 1

Sincerely,

Pilar Patterson, Chief  
Bureau of Point Source Permitting Region 2

Enclosures

cc: Permit Distribution List  
Masterfile #: 39609; PI #: 50577

New Jersey Department of Environmental Protection  
Division of Water Quality  
Bureau of Point Source Permitting – Region 1 & 2

**RESPONSE TO COMMENTS**

Comments were received on the NJPDES draft Surface Water Master General Permit Renewal No. NJ0070203 issued on May 24, 2006. The thirty (30) day public comment period began on May 17, 2006, including the date the public notice was published in the DEP Bulletin as well in various newspapers throughout the State of New Jersey. The comment period ended on June 30, 2006. A summary of the timely and significant comments received, the New Jersey Department of Environmental Protection's (Department) responses to these comments, and an explanation of any changes from the draft action have been included below. The following persons commented during the public comment period:

A. Jennifer Samson, Principal Scientist and Cindy Zipf, Executive Director of Clean Ocean Action in a co-authored letter dated June 29, 2006.

1. COMMENT:

The proposed renewal of the General Permit New Jersey Pollutant Discharge Elimination System (NJPDES) # NJ0070203 would authorize the discharge of non-contact cooling water (NCCW) and NCCW commingled with stormwater, cooling tower blowdown and air conditioning condensate water at temperatures not exceeding 86°F, to surface waters of the State or separate storm sewers, except those waters classified as FW-1, category one waters or within the Pinelands. This General Permit does not cover discharges that include certain biocides such as chlorine or corrosion inhibitors such as Copper, Chromium and Zinc.

Clean Ocean Action has serious concerns about the potential toxicity of NCCW discharges. A November 1991 US EPA Region 1 study on NCCW discharges indicated significant acute and chronic toxicity to aquatic organisms. A Department review of available toxicity data for New Jersey NCCW dischargers found that “only limited data on NCCW discharges existed...but of the several permittees who conducted acute toxicity tests on their intake waters to demonstrate the absence/presence of toxicity, the data consistently indicated results of LC50  $\geq$  100%, but after use of this water by the permittee, the discharge was somewhat toxic.” NJDEP then required permittees to conduct one Acute and one Chronic whole effluent toxicity (WET) test for the entire 5-year permit cycle. With the exception of a small number of facilities, NJDEP’s findings that no facilities exceeded the State’s acute toxicity threshold, and a few facilities exceeded the chronic toxicity threshold are based on a single data point and are therefore neither statistically nor scientifically valid.

The proposed General Permit reduces toxicity monitoring requirements from one acute and one chronic WET test during the entire 5-year permit cycle, to only requiring one chronic WET test. Considering EPA’s findings and the dearth of available toxicity data on New Jersey NCCW discharges, Clean Ocean Action urges NJ DEP to **increase** the monitoring requirements not reduce them. The effluent sampling must be frequent enough to capture seasonal effects on discharge water quality. We therefore recommend increasing the monitoring requirements to annual acute and chronic WET tests, with the specification that each quarter (season) be captured at least once throughout the 5-year period. A single snapshot of water quality every 5 years is not adequate to determine whether or not a discharge is toxic to aquatic organisms. Protecting water quality must take priority over economic considerations.

Clean Ocean Action requests a meeting with the appropriate staff from NJDEP Division of Water Quality, Bureau of Point Source Permitting Region 1, in order to discuss our comments and concerns before the renewal decisions are finalized for this General Permit.

RESPONSE:

As stated in the fact sheet of the draft permit, EPA conducted a study of several dischargers in November 1991 regarding the toxicity of non-contact cooling water discharges in the Massachusetts and New Hampshire area. EPA was unable to find a correlation for the possible causes of elevated toxicity levels exhibited. It was therefore concluded that further studies were warranted.

In May 2000, the Department conducted its own evaluation of dischargers of non-contact cooling water in New Jersey. Subsequently, the Department, in its non-contact cooling water general permit renewal that was issued on May 30, 2000, required permittees to perform one acute and one chronic toxicity test for data collection. The analysis done on the data collection prior to the issuance of the draft permit indicated that the facilities showed consistent compliance with the acute toxicity standard of  $LC50 \geq 50\%$  indicating that acute toxicity was not a concern for non-contact cooling water dischargers in New Jersey.

However, there was one existing facility (non-contact cooling water only discharger) and two proposed facilities (commingled storm and non-contact cooling water dischargers) that did exhibit chronic toxicity. Due to this reason and to characterize the current effluent quality of all discharges, the Department is requiring all permittees authorized under this general permit to conduct a chronic toxicity test within three (3) months from the effective date of the permit.

If the sample exhibits an unacceptable level of chronic toxicity, the permittee is required to evaluate its practices via a Preliminary Toxicity Evaluation to determine the cause of the toxicity, rectify the problem and then redo the toxicity test. If the chronic toxicity problem persists, the permittee shall prepare a Toxicity Investigation Report to be evaluated by the Department. The chronic toxicity threshold value for the facility will be re-evaluated to determine if the facility still qualifies for the general permit. If a facility no longer qualifies for the general permit authorization, the individual authorization will be revoked and the Department will issue an individual NJPDES/DSW permit with appropriate requirements and/or limitations to address the chronic toxicity problem.

In addition, the characteristics of the discharge from these facilities are mostly consistent. If a facility wants to change and/or begin using additives in the future, the permittee is required to notify the Department at least 180 days prior to any changes so that the Department can perform a complete evaluation to assess if the facility can still be eligible for coverage under the general permit or an individual permit must be issued to address the toxicity concerns.

Therefore, no changes have been made to the permit as a result of this comment.

These issues were discussed during the public comment period in a telephone conversation between Ben Manhas of Bureau of Point Source Permitting Region 1 and Jennifer Samson of Clean Ocean Action. Therefore, based on the reasons indicated above, the Department has determined that the need for further discussion on this topic prior to the issuance of this general permit was not necessary. However, the Department is available to discuss any further concerns that you may still have.

**B.** Mary Beth Koza, Director of Environment, Health & Safety, Bristol-Meyers Squibb Company in a letter dated June 20, 2006.

**2.** COMMENT:

On or about May 24, 2006, Bristol Myers-Squibb Company (BMS) received a letter from the NJDEP advising BMS that, based upon the Department's preliminary review, our Lawrenceville facility was selected to receive individual permit authorization under the Draft Surface Water Master General Permit. There are several statements in the General Permit Fact Sheet and in the General Permit indicating that, in order for the BMS

Lawrenceville Facility to be eligible for the General Permit, there must be no discharge of biocides and/or corrosion inhibitors that are unacceptable to the Department. Accordingly, we write today to provide the Department with copies of Material Safety Data Sheets (MSDS) for each of the non-contact cooling water additives that are used at the BMS Lawrenceville Facility and to request that the Department please provide written confirmation that the use of such additives is acceptable under the General Permit. Please be advised that BMS used these additives in the past and has included their usage in prior permit applications.

In addition to confirming that the non-contact cooling water additives that are used at the BMS Lawrenceville Facility are acceptable for use under the General Permit, we also request that the Department please provide written confirmation that, as regards requirements for sampling and monitoring, Table-1.C of the General Permit applies to the BMS Lawrenceville Facility.

RESPONSE:

The Department evaluated the list of biocides provided and concluded that additional information was needed to determine if the identified biocides will allow the facility to be covered by this NJPDES/DSW General Non-Contact Cooling Water Permit. The Department requested BMS to submit information regarding the concentration, dosage rates, frequency of use and aquatic toxicity data for the identified biocides to determine eligibility under this general permit. On August 17, 2006, the Department received the information from BMS regarding the biocides to be used.

The Department has concluded that only the BIOSPHERE 261T can be approved at the dosing rate under this general permit. The BIOSPHERE 250 cannot be authorized under the scope of this permit since it contains cupric nitrate. As indicated in the fact sheet of the draft general permit, the discharges of non-contact cooling water with corrosion inhibitors such as Copper, Chromium and Zinc are not covered by this General Permit. In addition, the third product used (DREW 2315) contains a corrosion/scale inhibitor that has not been identified in your submission and therefore cannot be fully evaluated at this time.

Therefore, the Department cannot issue an authorization under this general permit. If BMS wishes to pursue alternate biocides/corrosion inhibitors, the BMS must submit the appropriate information for the Department to determine the facility's eligibility under the general permit and notify accordingly. Otherwise, based on the information submitted, the Department will issue an individual NJPDES/DSW permit.

Should BMS be eligible for an authorization under this general permit subsequent to Department's approval at a future date, since the discharge from BMS facility consists of storm and non-contact cooling water, the table applicable to this facility would be Table 1C.

NON-CONTACT COOLING WATER ONLY

<i>No.</i>	<i>NJPDES #</i>	<i>Facility</i>	<i>Township</i>	<i>County</i>
1	0001651	Givaudan Roure Flavors Corp.	East Hanover	Morris
2	0004880	Progresso Foods	Vineland	Cumberland
3	0027430	Alfred Heller Heat Treating Co.	Clifton	Passaic
4	0029629	Design Molding Services	Piscataway	Middlesex
5	0029947	Solar Products	Pompton Lakes	Passaic
6	0030457	Passaic Rubber Co.	Wayne	Passaic
7	0031623	Ashland Chemical Co.	Totowa	Passaic
8	0031950	Hub Servall Record Mfg.	South Brunswick	Middlesex
9	0052213	Paulsboro Packaging	Paulsboro	Gloucester
10	0060909	Private Label Cosmetics	Fairlawn	Bergen
11	0063479	Novel Knit, Inc.	Fairview	Bergen
12	0066028	Foster Wheeler Dev. Corp.	Livingston	Essex
13	0068802	Ronald Mark Associates	Hillside	Union
14	0073741	Honeyware, Inc.	Kearny	Hudson
15	0085821	Huffman Koos	River Edge	Bergen
16	0105465	Swenson Co., Inc.	Raritan Borough	Somerset
17	0109223	Hall Manufacturing Corp.	Ringwood	Passaic
18	0109592	Jersey Plastic Molders Inc.	Irvington	Essex
19	0128422	Pershing, Division of D.L.J.	Florham Park	Morris
20	0128562	Church & Dwight Co. Inc.	Lakewood Twsp.	Ocean
21	0134902	Kappus Plastic Co. Inc.	Hampton Borough	Hunterdon
22	0141151	Berlex Laboratories	Wayne	Passaic
23	0142743	U.S. Food Service – Rykoff Sexton	Englewood	Bergen
24	0156426	Grove Street Pumping Station	Montclair	Essex
25	0159140	USPS	Hamilton	Mercer

NON-CONTACT COOLING WATER COMMINGLED WITH STORMWATER

1	0001031	Benedict-Miller Inc.	Lyndhurst	Bergen
2	0001635	Howmet Corporation	Dover	Morris
3	0002011	Sika Corporation	Lyndhurst	Bergen
4	0002283	General Chemical	Newark	Essex
5	0004537	Congoleum Corp.	Hamilton Twp.	Mercer
6	0025712	Vibration Mounting & Controls	Butler	Morris
7	0027618	Bristol-Myers Squibb Co.	Princeton	Mercer
8	0030791	Degan Oil & Chemical Co	Jersey City	Hudson
9	0031208	Asbury Graphite	Asbury	Hunterdon
10	0031895	Congoleum Corp.	Trenton	Mercer
11	0033146	Custom Chemical Corp	Elmwood Park	Bergen
12	0033553	Kohl & Madden	Teterboro	Bergen
13	0034118	United States Gypsum	Port Reading	Middlesex
14	0034185	Hoffman-LaRoche	Nutley	Essex
15	0035009	Mona Industries	Paterson	Passaic
16	0035238	Colgate-Palmolive	Morristown	Morris
17	0052540	United Wire Hanger Corp	Hasbrouck Heights	Bergen
18	0062138	Dri-Print Foils, Inc (API Foils)	Rahway	Union
19	0062731	Clement Pappas & Co., Inc.	Seabrook	Cumberland
20	0088404	PDQ Plastics Inc	Bayonne	Hudson
21	0109673	McGuire Air Force Base	New Hanover Twp.	Burlington
22	0113433	Aventis Pharmaceuticals	Bridgewater Twp.	Somerset



# 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: NJ0070203**

## Final: Surface Water Master General Permit Renewal

**Permittee:**

NJPDES Master General Permit Program Interest  
Category CG  
Per Individual Notice of Authorization  
Division of Water Quality  
P.O. Box 029, 401 East State Street  
Trenton, NJ 08625

**Co-Permittee:**

**Property Owner:**

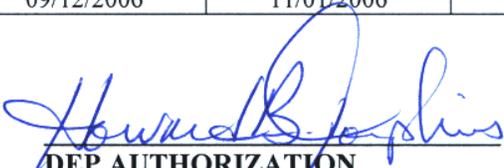
NJPDES Master General Permit Program Interest  
Category CG  
Per Individual Notice of Authorization  
Division of Water Quality  
P.O. Box 029, 401 East State Street  
Trenton, NJ 08625

**Location Of Activity:**

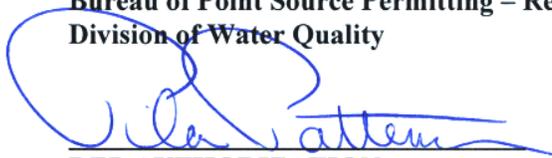
NJPDES Master General Permit Program Interest  
Category CG  
Per Individual Notice of Authorization  
Division of Water Quality  
P.O. Box 029, 401 East State Street  
Trenton, NJ 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
CG -Gen Non-Contact Cooling Water	09/12/2006	11/01/2006	10/31/2011

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

  
DEP AUTHORIZATION

Howard B. Tompkins, Chief  
Bureau of Point Source Permitting – Region 1  
Division of Water Quality

  
DEP AUTHORIZATION

Pilar Patterson, Chief  
Bureau of Point Source Permitting – Region 2  
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Division of Water Quality



# 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: NJ0 \_\_\_\_\_**

### Individual Authorization

**Permittee:**

Name of Permittee  
Mailing Street of Permittee  
Mailing Address of Permittee

**Co-Permittee:**

**Property Owner:**

Name of Owner  
Mailing Street of Owner  
Mailing Address of Owner

**Location Of Activity:**

Name of Location of Activity  
Mailing Street of Activity Location  
Mailing Address of Activity Location

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
CG -Gen Non-Contact Cooling Water			

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

**DEP AUTHORIZATION**  
**Howard B. Tompkins or Pilar Patterson, Chief**  
**Bureau of Point Source Permitting – Region 1 or 2**  
**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 <i>et seq.</i>    |
| 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
  - ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

### 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 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  
Examination and Licensing Unit  
P.O. Box 441  
Trenton, New Jersey 08625  
(609) 777-1012
  - ii. 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. Intermittent Discharges (If applicable)**

- a. The permittee is required to provide representative sampling of any regulated intermittent activity pursuant to N.J.A.C. 7:14A-6.5(a). Therefore, although a discharge may occur on an intermittent basis, it does not exempt the permittee from complying with the requirements of the permit. For example, if the permittee has a monthly monitoring and reporting requirement and the discharge occurs three separate times during the month, the permittee should sample during at least one of the discharge events occurring during the monitoring period. 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.

**9. Applicability of Numerical Limitations**

- a. If only one analysis for a given parameter is made during any sampling period specified in this permit, the result of such analysis shall be construed as the average value of the parameter, as well as the maximum, for said sampling period. The permittee may take samples and have analysis made by a New Jersey Certified laboratory on additional occasions to those specified in this permit. If so, the average and the maximum values of all analytical results taken during the sampling period shall be reported as the applicable average and maximum values. However, for pH, minimum and maximum values are reported rather than average values.

**10. Schedule of Maintenance**

- a. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

## PART III

### Effluent Limitations and Monitoring Requirements (for applicants with a regular monitoring frequency)

**A. 001A**

**Location Description**

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge identified on the authorization page.

**Contributing Waste Type**

Non-Contact Cooling Water

**Surface Water DMR Reporting Requirements:**

Submit Monthly DMR: due 25 calendar days after the end of each month.

**Table - 1.A**

Parameter	Sample Point	Limit	Quantification Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase
Flow	Effluent Gross Value	REPORT GPD		Monthly Average	1/Month	Representative	Jan-Dec	Initial
Flow	Effluent Gross Value	REPORT GPD		Daily Maximum	1/Month	Representative	Jan-Dec	Initial
Temperature	Effluent Gross Value	REPORT °C		Monthly Average	1/Month	Grab	Jan-Dec	Initial
Temperature	Effluent Gross Value	30 °C		Daily Maximum	1/Month	Grab	Jan-Dec	Initial
Total Suspended Solids	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Total Suspended Solids	Effluent Gross Value	20 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Chemical Oxygen Demand	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Chemical Oxygen Demand	Effluent Gross Value	50 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Total Organic Carbon	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Total Organic Carbon	Effluent Gross Value	20 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
pH	Effluent Gross Value	6 SU		Daily Minimum	1/Quarter	Grab	Jan-Dec	Initial
pH	Effluent Gross Value	9 SU		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Chronic Toxicity	Effluent Gross Value	REPORT MG/L		Daily Minimum	1/Permit Cycle	Grab	Jan-Dec	Initial

## PART III

### Effluent Limitations and Monitoring Requirements (for applicants with a regular monitoring frequency)

**A. 001A (continued)**

**Location Description**

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge identified on the authorization page.

**Contributing Waste Type**

Non-Contact Cooling Water.

**Surface Water DMR Reporting Requirements:**

Submit Monthly DMR: due 25 calendar days after the end of each month.

**Table - 1.A (continued)**

Parameter	Sample Point	Limit	Quantification Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase
Flow	Effluent Gross Value	REPORT GPD		Monthly Average	1/Month	Representative	Jan-Dec	Final
Flow	Effluent Gross Value	REPORT GPD		Daily Maximum	1/Month	Representative	Jan-Dec	Final
Temperature	Effluent Gross Value	REPORT °C		Monthly Average	1/Month	Grab	Jan-Dec	Final
Temperature	Effluent Gross Value	30 °C		Daily Maximum	1/Month	Grab	Jan-Dec	Final
Total Suspended Solids	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Total Suspended Solids	Effluent Gross Value	20 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Chemical Oxygen Demand	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Chemical Oxygen Demand	Effluent Gross Value	50 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Total Organic Carbon	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Total Organic Carbon	Effluent Gross Value	20 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
pH	Effluent Gross Value	6 SU		Daily Minimum	1/Quarter	Grab	Jan-Dec	Final
pH	Effluent Gross Value	9 SU		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Chlorine Produced Oxidants	Effluent Gross Value	0.1 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Chronic Toxicity	Effluent Gross Value	REPORT MG/L		Daily Minimum	1/Permit Cycle	Grab	Jan-Dec	Final

## PART III

### Effluent Limitations and Monitoring Requirements (for applicants with reduced monitoring frequency)

**B. 001B**

**Location Description**

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge identified on the authorization page.

**Contributing Waste Type**

Non-Contact Cooling Water.

**Surface Water DMR Reporting Requirements:**

Submit Quarterly DMR: due 25 calendar days after the end of each quarter.

**Table - 1.B**

Parameter	Sample Point	Limit	Quantification Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase
Flow	Effluent Gross Value	REPORT GPD		Monthly Average	1/Quarter	Representative	Jan-Dec	Initial
Flow	Effluent Gross Value	REPORT GPD		Daily Maximum	1/Quarter	Representative	Jan-Dec	Initial
Temperature	Effluent Gross Value	REPORT °C		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Temperature	Effluent Gross Value	30 °C		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Total Suspended Solids	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Total Suspended Solids	Effluent Gross Value	20 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Year	Grab	Jan-Dec	Initial
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L		Daily Maximum	1/Year	Grab	Jan-Dec	Initial
Chemical Oxygen Demand	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Chemical Oxygen Demand	Effluent Gross Value	50 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Total Organic Carbon	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Total Organic Carbon	Effluent Gross Value	20 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
pH	Effluent Gross Value	6 SU		Daily Minimum	2/Year	Grab	Jan-Dec	Initial
pH	Effluent Gross Value	9 SU		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Chronic Toxicity	Effluent Gross Value	REPORT MG/L		Daily Minimum	1/Permit Cycle	Grab	Jan-Dec	Initial

## PART III

### Effluent Limitations and Monitoring Requirements (for applicants with reduced monitoring frequency)

**B. 001B (continued)**

**Location Description**

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge identified on the authorization page.

**Contributing Waste Type**

Non-Contact Cooling Water

**Surface Water DMR Reporting Requirements:**

Submit Monthly DMR: due 25 calendar days after the end of each month.

**Table - 1.B (continued)**

Parameter	Sample Point	Limit	Quantification Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase
Flow	Effluent Gross Value	REPORT GPD		Monthly Average	1/Quarter	Representative	Jan-Dec	Final
Flow	Effluent Gross Value	REPORT GPD		Daily Maximum	1/Quarter	Representative	Jan-Dec	Final
Temperature	Effluent Gross Value	REPORT °C		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Temperature	Effluent Gross Value	30 °C		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Total Suspended Solids	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Total Suspended Solids	Effluent Gross Value	20 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Year	Grab	Jan-Dec	Final
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L		Daily Maximum	1/Year	Grab	Jan-Dec	Final
Chemical Oxygen Demand	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Chemical Oxygen Demand	Effluent Gross Value	50 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Total Organic Carbon	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Total Organic Carbon	Effluent Gross Value	20 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
pH	Effluent Gross Value	6 SU		Daily Minimum	2/Year	Grab	Jan-Dec	Final
pH	Effluent Gross Value	9 SU		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Chlorine Produced Oxidants	Effluent Gross Value	0.1 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Chronic Toxicity	Effluent Gross Value	REPORT MG/L		Daily Minimum	1/Permit Cycle	Grab	Jan-Dec	Final

## PART III

### Effluent Limitations and Monitoring Requirements (for applicants with commingled NCCW and storm water)

**C. 001C**

**Location Description**

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge identified on the authorization page.

**Contributing Waste Type**

Non-Contact Cooling Water and storm water.

**Surface Water DMR Reporting Requirements:**

Submit Monthly DMR: due 25 calendar days after the end of each month.

**Table - 1.C**

Parameter	Sample Point	Limit	Quantification Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase
Flow	Effluent Gross Value	REPORT GPD		Monthly Average	1/Month	Representative	Jan-Dec	Initial
Flow	Effluent Gross Value	REPORT GPD		Daily Maximum	1/Month	Representative	Jan-Dec	Initial
Temperature	Effluent Gross Value	REPORT °C		Monthly Average	1/Month	Grab	Jan-Dec	Initial
Temperature	Effluent Gross Value	30 °C		Daily Maximum	1/Month	Grab	Jan-Dec	Initial
Total Suspended Solids	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Total Suspended Solids	Effluent Gross Value	50 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Petroleum Hydrocarbons	Effluent Gross Value	15 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Chemical Oxygen Demand	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Chemical Oxygen Demand	Effluent Gross Value	100 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Total Organic Carbon	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Initial
Total Organic Carbon	Effluent Gross Value	20 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
pH	Effluent Gross Value	6 SU		Daily Minimum	1/Quarter	Grab	Jan-Dec	Initial
pH	Effluent Gross Value	9 SU		Daily Maximum	1/Quarter	Grab	Jan-Dec	Initial
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Initial
Chlorine Produced Oxidants	Effluent Gross Value	0.1 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Initial
Chronic Toxicity	Effluent Gross Value	REPORT MG/L		Daily Minimum	1/Permit Cycle	Grab	Jan-Dec	Initial

## PART III

### Effluent Limitations and Monitoring Requirements (for applicants with commingled NCCW and storm water)

**C. 001C (continued)**

**Location Description**

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge identified on the authorization page.

**Contributing Waste Type**

Non-Contact Cooling Water and storm water.

**Surface Water DMR Reporting Requirements:**

Submit Quarterly DMR: due 25 calendar days after the end of each quarter.

**Table - 1.C (continued)**

Parameter	Sample Point	Limit	Quantification Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase
Flow	Effluent Gross Value	REPORT GPD		Monthly Average	1/Month	Representative	Jan-Dec	Final
Flow	Effluent Gross Value	REPORT GPD		Daily Maximum	1/Month	Representative	Jan-Dec	Final
Temperature	Effluent Gross Value	REPORT °C		Monthly Average	1/Month	Grab	Jan-Dec	Final
Temperature	Effluent Gross Value	30 °C		Daily Maximum	1/Month	Grab	Jan-Dec	Final
Total Suspended Solids	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Total Suspended Solids	Effluent Gross Value	50 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Petroleum Hydrocarbons	Effluent Gross Value	15 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Chemical Oxygen Demand	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Chemical Oxygen Demand	Effluent Gross Value	100 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Total Organic Carbon	Effluent Gross Value	REPORT MG/L		Monthly Average	1/Quarter	Grab	Jan-Dec	Final
Total Organic Carbon	Effluent Gross Value	20 MG/L		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
pH	Effluent Gross Value	6 SU		Daily Minimum	1/Quarter	Grab	Jan-Dec	Final
pH	Effluent Gross Value	9 SU		Daily Maximum	1/Quarter	Grab	Jan-Dec	Final
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L		Monthly Average	2/Year	Grab	Jan-Dec	Final
Chlorine Produced Oxidants	Effluent Gross Value	0.1 MG/L		Daily Maximum	2/Year	Grab	Jan-Dec	Final
Chronic Toxicity	Effluent Gross Value	REPORT MG/L		Daily Minimum	1/Permit Cycle	Grab	Jan-Dec	Final

## PART IV

# GENERAL NON-CONTACT COOLING WATER - SPECIFIC REQUIREMENTS

### 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 by the Department in writing or as otherwise specified in the permit.
- c. 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.
- d. All monitoring shall be conducted as specified in Part III.
- e. 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.
- f. Annual and semi-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.

#### 2. Standard Recordkeeping Requirements

- a. The permittee shall retain records of all monitoring information, including
  - i. all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable);
  - ii. copies of all reports required by this NJPDES permit;
  - iii. all data used to complete the application for a NJPDES permit; and
  - iv. 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
  - i. the date, locations, and time of sampling or measurements,
  - ii. the individual(s) who performed the sampling or measurements,
  - iii. the date(s) the analyses were performed,
  - iv. the individual(s) who performed the analyses,
  - v. the analytical techniques or methods used, and
  - vi. the results of such analyses.

**B. 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
  - i. forms objectionable deposits on the receiving water,
  - ii. forms floating masses producing a nuisance, or
  - iii. 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.

**2. Biocide Reopener Clause**

- a. The use of certain biocides or metallic cooling water additives is prohibited under this general permit. The permittees have informed the Department that they did not use any corrosion inhibitors, biocides, or any other cooling water additives unacceptable to the Department in its non-contact cooling water at the time of permit issuance. If the permittee decides to change and/or begin using any of the agents in the future, the permittee must notify the Department at least 180 days prior to use so that the Department can evaluate the corresponding MSDS sheets for the potential to assess the permittee's continued eligibility for coverage under this general permit.

**3. Best Management Practices Plan**

- a. In order to prevent, or minimize the potential for the release of toxic substances and other pollutants from ancillary activities to the waters of the State through plant runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage, the permittee shall develop and implement a Best Management Practices (BMP) Plan.
- b. These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as toxic under Section 307 (a)(1) of the Clean Water Act and who have ancillary manufacturing operations which could result in significant amounts of these pollutants reaching waters of the State. These operations include material handling areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas:
- c. The BMP Plan shall include such things as:
  - i. Routine Inspections;
  - ii. Preventive Maintenance;
  - iii. Good Housekeeping;
  - iv. Materials Compatibility;
- d. The facility must incorporate in the BMP Plan any appropriate procedures for adequately controlling spills and leaks of hazardous substances, as necessary
- e. Specific information concerning the development of the BMP Plan with respect to stormwater management is available in the U.S. Environmental Protection Agency's publication entitled, "Stormwater Management For Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices", EPA 832-R-92-006, September 1992.

#### 4. Monitoring and Reporting

- a. The permittee shall report monitoring results on the Discharge Monitoring Report (DMR) forms or other monitoring report forms required by the permit to the Department at the intervals specified in the permit. Monitoring results shall be summarized and reported on the appropriate form following the completed reporting period. If a discharge does not occur during a particular reporting period, a check mark shall be placed in the “No Discharge this monitoring period” box on the paper or electronic version of the monitoring report submittal form. Unless otherwise specified or directed, signed copies of these forms shall be submitted postmarked no later than the 25<sup>th</sup> day of the calendar month following the completed reporting period to the following address:
  - i. New Jersey Department of Environmental Protection  
Bureau of Permit Management  
P.O. Box 29  
Trenton, New Jersey 08625-0029
- b. If requested by the Water Compliance and Enforcement Bureau, please send the information requested to the following address:
  - i. NJDEP: Northern Bureau of Water Compliance and Enforcement  
7 Ridgedale Avenue  
Cedar Knolls, New Jersey 07927-1112
  - ii. NJDEP: Central Bureau of Water Compliance and Enforcement  
P.O. Box 407  
Trenton, New Jersey 08625-0407
  - iii. NJDEP: Southern Bureau of Water Compliance and Enforcement  
One Port Center  
2 Riverside Drive, Suite 201  
Camden, New Jersey 08102
- c. In addition to the monitoring and reporting requirements in Part I, a duplicate signed copy of all other monitoring reports required from the permittee including the DMRs shall be submitted to the DRBC (only for dischargers to the Delaware River Basin) at the following address:
  - i. Delaware River Basin Commission  
P.O. Box 7360  
West Trenton, New Jersey 08628  
Attn: Executive Director
- d. For submittal of paper monitoring report forms:
  - i. All monitoring reports shall be signed by the highest ranking official having day to day managerial and operational responsibilities for the discharging facility in accordance with N.J.A.C. 7:14A-6.9.
  - ii. The highest ranking official may delegate responsibility to sign in accordance with N.J.A.C. 7:14A-6.9(c).

#### 5. Modification of Monitoring Requirements

- a. Facilities regulated under Table 1A or 1C, may request that the monitoring frequency be reduced for all parameters provided they meet the following condition:

- i. All parameters show consistent compliance with the limits in Table A or C, based on the most recent (3) three years of effluent data.
- b. Reduction of monitoring frequency is not automatic; the Department shall determine whether or not a reduction is warranted. The Discharge Monitoring Reports (DMR's) shall be reviewed to verify consistent compliance with permit limitations and conditions. If the Department agrees to grant the request, the Department will issue a minor modification to the individual permit authorization to change the monitoring frequency of the affected parameters.
- c. A request for a modification of the monitoring frequency should be sent to:
  - i. New Jersey Department of Environmental Protection  
Bureau of Permit Management  
P.O. Box 029  
Trenton, New Jersey 08625-0029

## **6. Third Party Storm Sewers**

- a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, this NCCW permit renewal 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.

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

- a. This permit includes multiple phases for initial and final (if a three (3) year compliance schedule is allowed for CPO).  
The initial phase limits are effective from EDPA until EDPA+ 36 months.  
The final limits will become effective on EDPA + 36 months.
- b. The final limits will become effective on EDPA (if no compliance schedule is allowed for CPO).

## **8. Compliance Schedule Progress Reports**

- a. In accordance with N.J.A.C. 7:14A-6.4(a), a schedule of compliance has been included for CPO including interim deadlines for annual progress reports that outline the progress towards compliance with the conditions of the permit.
  - i. Submit a compliance Schedule Progress Report: within one year from the effective date of the permit authorization (EDPA).
  - ii. Submit a compliance Schedule Progress Report: within 24 months from the effective date of the permit authorization.
  - iii. Submit a compliance Schedule Progress Report: within 36 months from the effective date of the permit authorization (EDPA).
- b. The compliance schedule progress report(s) shall be submitted to the following Departmental entities:
  - i. "NJDEP: Division of Water Quality  
Bureau of Point Source Permitting – Region 1  
P.O. Box 029  
Trenton, New Jersey 08625-0029"  
(All submissions)

- ii. "NJDEP: Northern Bureau of Water Compliance and Enforcement  
1259 Route 46, Building #2  
Parsippany, New Jersey 07054-4191"  
(Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren)
- iii. "NJDEP: Southern Bureau of Water Compliance and Enforcement  
One Port Center  
2 Riverside Drive, Suite 201  
Camden, New Jersey 08102-0201"  
(Counties of Atlantic Burlington, Camden, Cape May, Cumberland, Gloucester and Salem)
- iv. "NJDEP: Central Bureau of Water Compliance and Enforcement  
300 Horizon Center, P.O. Box 407  
Trenton, New Jersey 08625-0407"  
(Counties of Mercer, Middlesex, Monmouth, Ocean and Union)

## **C. WHOLE EFFLUENT TOXICITY REQUIREMENTS**

### **1. Chronic Toxicity Testing Requirements**

- a. The permittee shall conduct chronic toxicity test(s) on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the survival, growth and/or reproduction of the test species.
  - i. Chronic toxicity test(s) shall be conducted in accordance with the Department's "Chronic Toxicity Testing Specifications For Use In The NJPDES Permit Program". Any test that does not meet the specifications must be repeated within 30 days of the completion of the initial test.
  - ii. Chronic toxicity test(s) results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing methodology yields IC25s from more than one test endpoint, the most sensitive endpoint will be used to determine permit compliance. When reporting to the Delaware River Basin Commission (DRBC), sample results shall be expressed as No Observed Effect Concentration (NOEC).
  - iii. The test species to be used for the chronic toxicity test is as follows:

For discharges to a freshwater receiving water body, the *Ceriodaphnia dubia*, 3 brood survival and reproduction test 40 CFR 136.3 method 1002.0 shall be utilized. For discharges to a saline receiving water body (having a salinity of greater than 3.5 ppt.), the *Mysidopsis bahia*, 7 day survival, growth, and fecundity test 40 CFR 136.3 method 1007.0 shall be utilized.

### **2. Monitoring Requirements**

- a. The permittee shall perform an initial chronic toxicity test within three (3) months of the effective date of the permit authorization.
- b. If the results of the toxicity test indicate noncompliance with the Chronic Toxicity threshold (an IC25 value less than 61%), the permittee shall perform an evaluation of their practice at the site under Toxicity Investigation (TI) Requirements/Part IV General Non-Contact Cooling Water, Section D2 below as to the reason for the exceedance.
- c. The permittee shall implement the necessary measures to rectify the noncompliance and then redo the toxicity test within one (1) year of the chronic toxicity noncompliance.

- d. If the result of the chronic toxicity test is still not in compliance with the threshold mentioned above, the permittee shall notify the Bureau of Point Source Permitting – Region 1 of the noncompliance and prepare a Toxicity Investigation Report containing the following items in accordance with the schedule under Part IV C.3.d.:
  - i. results of the initial toxicity test;
  - ii. the Preliminary Toxicity Evaluation (PTE) followed by the permittee; as identified in Part IV Item D.1. below;
  - iii. the corrective measures taken by the permittee;
  - iv. the results of the final toxicity test(s).
- e. If the results of the chronic toxicity test are in compliance with the threshold mentioned above, the permittee has fulfilled the WET requirements and shall continue to discharge in accordance with the permit authorization.

### 3. Reporting Requirements

- a. For new authorizations: Submit a Chronic Methodology Questionnaire: due within 60 days from the effective date of the permit authorization (EDPA).
- b. For renewal authorization: The permittee shall resubmit a Chronic Methodology Questionnaire within 60 days of any change in laboratory.
- c. Chronic toxicity test results shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests", copies of which are provided to certified laboratories. Copies of the report form may also be obtained by contacting the address below.
- d. TWO COPIES of the completed report form shall be submitted within 60 days of test completion to:

New Jersey Department of Environmental Protection  
Division of Water Quality, Bureau of Point Source Permitting Region 1  
P.O. Box 29  
Trenton, New Jersey 08625-0029  
Attention: Biomonitoring Program
- e. If a facility is located in the Delaware River Basin, a copy of the completed report form shall be submitted to the DRBC at the address cited in Part IV, General Non-Contact Cooling Water, Section B.4.c.i. of the permit.
- f. If applicable, the permittee shall submit a Toxicity Investigation Report as identified in Part IV C.2.d above within EDPA + 18 months

**D. Toxicity Investigation (TI) Requirements****1. Preliminary Toxicity Evaluation (PTE)**

- a. The permittee shall initiate a toxicity investigation if the toxicity test demonstrates that the effluent does not comply with the chronic threshold of IC25 greater than or equal to 61%.
  - i. Within 30 days after the noncompliance with the chronic toxicity threshold, stated in D.1.a. above, the permittee shall initiate a PTE as to the reason for the noncompliance. The PTE shall be completed within 2 months of the noncompliance and shall include but not be limited to:

An evaluation of the use of biocides;  
An evaluation of the use of additives;  
A check for cross connections of the discharge prior to sampling;  
For Table A or B discharges, check if stormwater is included in the discharge;  
A dilution evaluation, if necessary;  
An evaluation of incidental facility procedures such as floor washing and chemical spills.

**2. Preliminary Corrective Measures (PCM)**

- a. The permittee shall perform the following corrective measures:
  - i. Within 3 months of the noncompliance of the threshold stated in Part IV, General Non-Contact Cooling Water, Section C.2.b. above, the permittee shall outline a PCM that will bring the discharge into compliance with the chronic toxicity threshold.
  - ii. Within 6 months of the noncompliance of the threshold, the permittee shall implement the PCM to bring the discharge into compliance with the threshold level stated in Part IV, General Non-Contact Cooling Water, Section C.2.b. above.

**3. Compliance Monitoring (CM)**

- a. The permittee shall adhere to the following compliance schedule:
  - i. Within 12 months of the noncompliance of the threshold, the permittee shall resample for chronic toxicity for compliance with the threshold levels referenced in Part IV, General Non-Contact Cooling Water, Section C.2.b. above.
  - ii. If the results of the compliance monitoring does not comply with the threshold value for chronic toxicity, the permittee shall meet the requirements set forth in Part IV, General Non-Contact Cooling Water, Section C.2.b. above.
  - iii. If the results of the chronic toxicity tests are in compliance with the thresholds mentioned in Part IV, General Non-Contact Cooling Water, Section C.2.b. above, the permittee has fulfilled the WET requirements and shall continue to discharge in accordance with the permit authorization.

**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. Two copies of all chronic toxicity test report forms shall be submitted to the following address as applicable:

Bureau of Point Source Permitting Region 1 **OR**  
Bureau of Point Source Permitting Region 2 (as indicated in the cover letter)

New Jersey Department of Environmental Protection  
Division of Water Quality  
PO Box 29  
Trenton, NJ 08625-0029

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.
3. Keating, K., and B. Dagbusan. 1984. Effect of selenium deficiency on cuticle integrity in Cladocera (Crustacea). *Proc. Natl. Acad. Sci. USA* 81:3433-3437.
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.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
PO Box 29  
TRENTON, NEW JERSEY 08625-0029  
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.