



## State of New Jersey

PHILIP D. MURPHY  
Governor

TAHESHA L. WAY  
Lt. Governor

### DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Water Quality  
Water Pollution Management Element  
Bureau of Surface Water and Pretreatment Permitting  
P.O. Box 420 – 401 E State St  
Trenton, NJ 08625-0420  
Mail Code 401-02B  
Phone: (609) 292-4860 | Fax: (609) 777-0432

SHAWN M. LATOURETTE  
Commissioner

**Via Email Only**  
May 21, 2025

Re: Draft NJPDES Discharge to Surface Water Master General Permit Renewal - Statewide  
Category: BGR - General Remediation Clean-up Permit  
NJPDES Permit No. NJ0155438

Dear Interested Parties:

Enclosed is a draft NJPDES permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. This master general permit serves to renew the existing Master BGR General Remediation Clean-up (non-petroleum) Permit. A full copy of the master BGR general permit is available on the Department's website at [https://dep.nj.gov/dwq/permitting\\_information/permits\\_application\\_forms\\_and\\_checklists/#DSW](https://dep.nj.gov/dwq/permitting_information/permits_application_forms_and_checklists/#DSW)

Notice of this draft permit action will appear in the May 21, 2025 *DEP Bulletin*. The *DEP Bulletin* is available on the Department's website at <https://dep.nj.gov/bulletin/>. In addition, notice of this draft permit will appear in the major Northern, Central and Southern New Jersey newspapers listed below. In accordance with N.J.A.C. 7:14A-15.10(c)1i, the public comment period will close thirty days after the latest newspaper's publication date.

*Courier Post, The Daily Record, The Press of Atlantic City, The Star Ledger, South Jersey Times, and The Times*

As detailed in the *DEP Bulletin* and aforementioned newspaper, written comments or a request that the Department hold a non-adversarial public hearing on the draft document must be submitted in writing to Brett Callanan, Chief, Mail Code 401-02B, Bureau of Surface Water and Pretreatment Permitting, P.O. Box 420, Trenton, NJ 08625-0420 or by email at [dwq\\_bswp@dep.nj.gov](mailto:dwq_bswp@dep.nj.gov) by the close of the public comment period. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's tentative decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period. The Department will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments will receive notice of the Department's final decision to issue, revoke, or redraft the document.

If you have questions or comments regarding the draft action, please contact Tara Klimowicz or Kevin Johnson either by phone at (609) 292-4860 or via e-mail at [Tara.Klimowicz@dep.nj.gov](mailto:Tara.Klimowicz@dep.nj.gov) or [Kevin.Johnson@dep.nj.gov](mailto:Kevin.Johnson@dep.nj.gov).

Sincerely,

Dwayne Kobesky, Environmental Specialist 4  
Bureau of Surface Water and Pretreatment Permitting

Enclosures  
c: Permit Distribution List  
Masterfile #: 39609; PI #: 50577

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(only applicable for those authorizations in which a chronic whole effluent toxicity limit is specified)**

## List of Acronyms

|                 |  |
|-----------------|--|
| ACR             | Acute to Chronic Ratio   |
| AL              | Action Level   |
| AML             | Average Monthly Limitation   |
| BMP             | Best Management Practices  |
| BPJ             | Best Professional Judgement  |
| CAP             | Capacity Assurance Program   |
| CFR             | Code of Federal Regulations  |
| CV              | Coefficient of Variation   |
| CWEA/CWA        | Clean Water Enforcement Act/Clean Water Act  |
| Department      | New Jersey Department of Environmental Protection  |
| DGW             | Discharge to Groundwater   |
| DMR             | Discharge Monitoring Report  |
| DRBC            | Delaware River Basin Commission  |
| DSN             | Discharge Serial Number  |
| DSW             | Discharge to Surface Water   |
| EDP/M           | Effective Date of the Permit/Permit Modification   |
| EEQ             | Existing Effluent Quality  |
| ELG             | Effluent Limitation Guideline  |
| g/d or g/day    | Grams per Day  |
| IEC             | Interstate Environmental Commission  |
| IPP             | Industrial Pretreatment Program  |
| kg/d or kg/day  | Kilograms per Day  |
| LTA             | Long Term Average  |
| MA1CD10 or 1Q10 | Minimum average one day flow with a statistical recurrence interval of ten years                       |
| MA7CD10 or 7Q10 | Minimum average seven consecutive day flow with a statistical recurrence interval of ten years         |
| MA30CD5 or 30Q5 | Minimum average 30 consecutive day flow with a statistical recurrence interval of five years           |
| mg/L            | Milligrams per Liter   |
| MDL             | Maximum Daily Limitation   |
| MGD             | Million Gallons per Day  |
| MRF             | Monitoring Report Form   |
| NAICS           | North American Industry Classification System  |
| NOAEC           | No Observable Adverse Effect Concentration   |
| NPDES/NJPDES    | National/New Jersey Pollutant Discharge Elimination System   |
| NJR             | New Jersey Register  |
| PCB             | Polychlorinated Biphenyls  |
| PMP             | Pollutant Minimization Plan  |
| POTW            | Publicly Owned Treatment Works   |
| RPMF            | Reasonable Potential Multiplying Factor  |
| RTR             | Residuals Transfer Report  |
| RQL             | Recommended Quantification Levels  |
| RWBR            | Reclaimed Water for Beneficial Reuse   |
| SIC             | Standard Industrial Classification   |
| SIU             | Significant Indirect User  |
| SQAR            | Sludge Quality Assurance Regulations   |
| SSTM            | Sufficiently Sensitive Test Methods  |
| STP             | Sewage Treatment Plant   |
| SWQS            | Surface Water Quality Standards  |
| TMDL            | Total Maximum Daily Load   |
| TR              | Total Recoverable  |
| TRIR            | Toxicity Reduction Implementation Requirements   |
| USEPA TSD       | USEPA Technical Support Document for Water Quality Based Toxics Control (EPA/505/2-90-001, March 1991) |
| µg/L            | Micrograms per Liter   |
| USEPA           | United States Environmental Protection Agency  |
| USGS            | United States Geological Survey  |
| UV              | Ultraviolet  |
| WCR             | Wastewater Characterization Report   |
| WER             | Water Effects Ratio  |
| WLA             | Wasteload Allocation   |
| WWTP            | Wastewater Treatment Plant   |
| WQBEL           | Water Quality Based Effluent Limitation  |

New Jersey Department of Environmental Protection  
Division of Water Quality  
Bureau of Surface Water and Pretreatment Permitting

**PUBLIC NOTICE**

Notice is hereby given that the New Jersey Department of Environmental Protection (Department) proposes to renew the New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) General Remediation Clean Up Discharge General Permit (Category BGR), NJ0155438 in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq.

This NJPDES/DSW master BGR general permit serves to renew the existing master BGR general groundwater remediation (non-petroleum) clean-up permit which expires on July 31, 2025. This master BGR general permit is issued to continue to authorize the discharge of treated groundwater from remediations, dewaterings and pump tests to eligible surface waters of the State or storm sewers. The Department has determined that these types of point sources require the same effluent limitations or operating conditions, require the same or similar monitoring conditions, and are more appropriately controlled under a general permit authorization than under individual NJPDES permits. However, if the Department determines that the applicant is not eligible for this general permit due to the presence of contaminants not addressed here, the applicant may pursue an individual permit or another appropriate general permit. This master BGR general permit does not authorize the discharge to those waters classified as FW1, Category One (C1) and PL (Pinelands). A full copy of the master BGR general permit, including a complete description of all effluent limitations and monitoring conditions is available at

[https://dep.nj.gov/dwq/permitting\\_information/permits\\_application\\_forms\\_and\\_checklists/#DSW](https://dep.nj.gov/dwq/permitting_information/permits_application_forms_and_checklists/#DSW)

Modification provisions as cited in the permit may be initiated in accordance with the provisions set forth in Part I and upon written notification from the Department.

This renewal draft NJPDES/DSW master BGR general permit has been prepared based on the administrative record which is on file at the offices of the Department, located at 401 East State Street, Trenton, New Jersey. It is available for inspection, by appointment, Monday through Friday, between 8:30 A.M. and 4:00 P.M. Appointment for inspection may be requested through the Office of Records Access. Details are available online at [www.nj.gov/dep/opra](http://www.nj.gov/dep/opra), or by calling (609) 341-3121.

Written comments or a request that the Department hold a non-adversarial public hearing on the draft document must be submitted in writing to Brett Callanan, Chief, Mail Code 401-02B, Bureau of Surface Water and Pretreatment Permitting, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period, which closes thirty calendar days after publication of this notice in the newspaper. Comments via email are also acceptable and can be sent to [dwq\\_bswp@dep.nj.gov](mailto:dwq_bswp@dep.nj.gov). All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The Department will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments will receive notice of the Department's permit decision.

New Jersey Department of Environmental Protection  
Division of Water Quality  
Bureau of Surface Water and Pretreatment Permitting

## FACT SHEET

**Masterfile #:** 39609

**PI #:** 50577

This fact sheet sets forth the principle facts and the significant factual, legal, and policy considerations examined during preparation of the draft permit. This action has been prepared in accordance with the New Jersey Water Pollution Control Act and its implementing regulations at N.J.A.C. 7:14A-1 et seq. - The New Jersey Pollutant Discharge Elimination System.

**PERMIT ACTION:** Surface Water Renewal – Master General Remediation (non-petroleum) Clean-up Permit  
Category BGR – NJG0155438

The Department is proposing to renew the July 28, 2020 Master BGR Permit which expires July 31, 2025.

### **1 Description of the Master General Remediation Clean-up Permit**

Pursuant to N.J.A.C. 7:14A-6.13(b)4 of the NJPDES Regulations, the Department has determined that the groundwater remediation (non-petroleum product) clean-up category of point sources require the same effluent limitations or operating conditions, require the same or similar monitoring conditions, and are more appropriately controlled under a general permit than under an individual permit. Issuance of a master general permit serves to simplify and streamline the NJPDES permitting process for these similar types of discharges.

This permit authorizes the discharge of point sources into surface waters of the State directly or via separate storm sewers, except those waters classified as FW1, Category One (C1) and Pinelands (PL), in compliance with the limitations and conditions described below and in a manner that will not cause violation of the New Jersey Surface Water Quality Standards (NJSWQS) of N.J.A.C. 7:9B-1.1 et seq. and the Federal Surface Water Quality Standards, 40 CFR 131. All existing and new facilities considered eligible under this master general permit are rated as minor facilities by the Department in accordance with the United States Environmental Protection Agency (USEPA) rating criteria.

The master BGR permit was last renewed on July 28, 2020 and this subject permit serves to renew that action. There are limited differences from the 2020 permit in comparison to this subject permit renewal. Upon finalization of this master BGR permit, the Department will renew the existing individual BGR authorizations where a renewal application was submitted. The Master BGR Permit Summary Table (PST) near the end of the Fact Sheet contains the effluent limitations and monitoring requirements included in Part III of the Master BGR permit. Existing limitations that are more stringent than specified in this permit have been retained pursuant to N.J.A.C. 7:14A-13.19.

### **2 Description of Facilities Covered by the Master General Remediation Clean-up Permit**

The majority of the existing individual BGR authorizations contain effluent limitations and monitoring conditions consistent with Part III of this Master BGR permit. Site specific effluent limitations included in Part III of the individual BGR permit authorizations are dependent on the contaminants detected or known to be present at the site, the duration of the discharge and the receiving waterbody. The limits are based on the following two discharge types.

**Table 1:** New and existing long term remediation discharges into waters classified as FW2-NT (C2), FW2- TM (C2), SE (C2) or SC (C2) where metals, volatile organics, acid extractables, base-neutral compounds, PCBs or pesticides are present.

**Table 2:** New short term dewatering activities, pump tests or similar water discharges into waters classified as FW2-NT (C2), FW2-TM (C2), SE (C2) or SC (C2) which may contain metals, volatile organics, acid extractables, base-neutral compounds, PCBs or pesticides.

New and existing dischargers can request authorization to be covered under the general permit by submitting appropriate NJPDES application forms. The BGR checklist and BGR permit application forms can be found at the Department's website at [https://dep.nj.gov/dwq/permitting\\_information/permits\\_application\\_forms\\_and\\_checklists/](https://dep.nj.gov/dwq/permitting_information/permits_application_forms_and_checklists/). If the Department determines that the individual facility meets the eligibility requirements of the master BGR permit, then an individual authorization is issued to that facility. The Department strongly recommends that applicants fill out and submit application forms as early in the project planning process as possible.

Facilities that discharge treated non-petroleum contaminated water to surface water are eligible to be covered under this master BGR permit. For example, a remediation project where groundwater is being treated for Volatile Organic Compounds (VOCs) contamination and discharged to a surface waterbody via a storm water drain is likely eligible to be covered by a BGR permit. Treated construction dewatering and other treated non-petroleum water, generally short term in nature, are also likely eligible under this master general permit. The Department will review applications for discharges on a case-by-case basis and reserves the right to deny authorization under the BGR permit.

The discharge of remediated groundwater associated with petroleum products shall typically be regulated under the Master General Petroleum Product Clean-up Permit (GPPC or Category B4B), NJ0102709. However, a facility is eligible for a BGR if the main pollutant of concern is non-petroleum but can contain trace amounts of petroleum contaminants, e.g. Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX Compounds). Short term construction dewatering projects of non-contaminated water shall request authorization under the Master Short Term DeMinimus General Permit (Category B7), NJ0134511.

In order to minimize confusion for renewal authorizations, all outfall designations have been retained from the previous individual BGR permit authorization. For new authorizations under this master BGR permit, outfalls will be designated as DSN 001A regardless of which table is utilized, unless otherwise specified in the authorization. Any individual BGR authorization issued under the master BGR permit is given two NJPDES numbers. The NJPDES number on the individual authorization page will be specific to the individual facility whereas the NJPDES number NJ0155438 is specific to the master BGR general permit.

### **3 Description of Limitations and Conditions for Table 1 and Table 2:**

The proposed effluent limitations and other pertinent information regarding the draft permit are described below:

#### **A. Basis for Effluent Limitations and Permit Conditions - General:**

The effluent limitations and permit conditions in this permit have been developed to ensure compliance with the following, as applicable:

1. NJPDES Regulations (N.J.A.C. 7:14A)
2. New Jersey SWQS (N.J.A.C. 7:9B)
3. New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List)
4. Requirements of the DRBC (N.J.A.C. 7:9B-1.5(b)1)
5. Interstate Environmental Commission (N.J.A.C. 7:9B-1.5(b)2)
6. The Highlands Commission (N.J.S.A. 13:20-1 et seq)
7. Existing permit limitations in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44 (antibacksliding requirements)
8. Permit limitations in accordance with N.J.A.C. 7:9B-1.5(d) (antidegradation requirements)
9. Statewide Water Quality Management Planning Rules (N.J.A.C. 7:15)
10. Sludge Quality Assurance Regulations (N.J.A.C. 7:14C)

Technology Based Effluent Limitations (TBELs) are authorized by Section 301 of the CWA, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2(a)1.ii., 13.3(b), and 13.4. Best Professional Judgement (BPJ) determinations are authorized by Section 402 (a)(1) of the CWA.

In accordance with N.J.A.C. 7:14A-13.5, Water Quality Based Effluent Limitations (WQBELs) are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey SWQS, N.J.A.C. 7:9B-1.1 et seq., and the Federal Water Quality Standards, 40 CFR Part 131. WQBELs are authorized by Section 301 of the CWA, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3. The procedures used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA TSD and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

Expression of all effluent limitations is in accordance with N.J.A.C. 7:14A-13.14 and 13.15. Whole Effluent Toxicity (WET) is expressed as a minimum as percent effluent.

This permit action does not authorize any increase in the concentration of pollutants above those levels authorized under the existing permit. All permit limitations and conditions in this permit action are equal to or more stringent than those contained in the existing permit action. As a result, this permit action satisfies the federal and state antidegradation regulations at 40 CFR 131.12 and N.J.A.C. 7:9B-1.5(d), and no further anti-degradation analysis is necessary.

#### **B. Basis and Derivation for Effluent Limitations and Monitoring Requirements - Specific:**

A summary of effluent data is included in the Permit Summary Tables at the end of the Fact Sheet. In addition, influent data (untreated wastewater) continues to be required in the applications for individual authorizations under the master BGR general permit and was considered as part of the decision making in this renewal permit. Effluent data and site-specific data included in the renewal applications were considered in the Department's determination regarding which parameters to regulate. In addition, the Department considered the parameters included in the existing master BGR general permit, in accordance with N.J.A.C. 7:14A-13.19.

- Available Data:

Influent data (untreated wastewater) is required in the applications for individual authorizations to determine eligibility and is considered in determining specific parameter monitoring requirements that are included with individual authorizations. Influent data requirements as part of the application are comprehensive. The Department reviewed effluent data for the master BGR permits issued in 2010, 2015, 2020 and found that in general, available treatment technologies has enabled most permittees to meet most permit limitations. Effluent discharge monitoring report (DMR) form data for the time period of January 1, 2022 to December 31, 2024 has also been reviewed and was found in most cases, to be meeting permit limitations. A summary of the effluent data is included at the end of the fact sheet.

- Dilution Credit:

The Department has not considered site-specific dilution effects in the application of any effluent limits in this master BGR permit for new discharges. Consideration of site-specific dilution effects for each individual discharger is not feasible for a master general permit where effluent limits and conditions need to be streamlined.

#### **C. Background of Regulated BGR Parameters for Table 1 and Table 2:**

Effluent limitations and monitoring requirements are included in Part III of the master BGR permit. Additionally, site-specific effluent limitations will be included in Part III of each individual BGR authorization where applicable. The basis (background) for these requirements is described below.

1. Flow:

This permit action does not include a numerical limitation for flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13 and 13.14 and are consistent with existing NJPDES Discharge to Surface Water (DSW) permits. Flow monitoring is necessary to ensure compliance with the effluent limits and treatment system designed flow. Flow monitoring shall be performed with a flow meter; however, if the flow monitoring method is something other than a flow meter, the applicant shall indicate the flow monitoring method in the BGR permit application in order for Part III of the individual authorization to be adjusted accordingly.

2. pH:

The existing master BGR permit specifies a pH range of 6.0 Standard Units (S.U.) and a maximum of 9.0 S.U. for both fresh and saline waters. These minimum and maximum pH levels are technologically and economically achievable based on existing monitoring report form effluent data and are retained from the existing master BGR permit in accordance with N.J.A.C 7:14A-13.19.

3. Total Suspended Solids (TSS):

The existing master BGR permit specifies a TSS daily maximum concentration limitation of 40 mg/L for dischargers to FW2-NT waters, SE and SC waters as wells as certain fresh and saline portions of the Delaware River. This limitation is consistent with the NJSWQS at N.J.A.C. 7:9B-1.1 et seq. for FW2-NT waters and is economically and technologically achievable for all discharges based on the monitoring report form effluent data which shows the average TSS levels below the existing limitation of 40 mg/L. Therefore, this limitation is retained from the existing master BGR permit in accordance with N.J.A.C 7:14A-13.19. The TSS monthly average monitoring requirement is also carried forward from the existing master BGR permit.

The existing master BGR permit also specifies a TSS daily maximum concentration limitation of 25 mg/L for discharges to FW2-TM and FW2-TP waters. This limitation is consistent with the NJSWQS at N.J.A.C. 7:9B-1.1 et seq. for FW2-TM and FW2-TP waters and is economically and technologically achievable based on available monitoring report form effluent data. The TSS monthly average monitoring requirement is also carried forward from the existing master BGR permit.

4. Total Organic Carbon (TOC):

The existing master BGR permit specifies a TOC daily maximum concentration limitation of 20 mg/L. The Department has imposed a limitation for TOC to protect against pollutants which may be present in various concentrations in the effluent but where no specific numerical limitations have been imposed in this permit. This limitation is economically and technologically achievable based on available monitoring report form effluent data and is retained from the existing master BGR permit in accordance with N.J.A.C 7:14A-13.19. The TOC monthly average monitoring requirement is also carried forward from the existing master BGR permit.

5. Toxic Pollutants:

The Department will continue to incorporate effluent limits for toxic parameters including metals, volatile organics, acid extractables, base/neutral compounds, PCBs or pesticides in this master BGR permit renewal since there are times when additional parameters are present in addition to the conventional BGR parameters.

**Existing Discharges:** Most effluent limitations and monitoring requirements are carried forward from the existing permit in accordance with the anti-backsliding provisions as cited in N.J.A.C. 7:14A-13.9. Each renewal application was reviewed and application data was evaluated to determine whether or not additional compounds should be included in the permit based on untreated groundwater levels. As stated in Part IV, the monitoring frequency may be reduced, which is consistent with N.J.A.C. 7:14A-14.2(a). Factors that the Department will consider in evaluating a monitoring frequency reduction for an existing discharger include consistent compliance, facility flow, amount of data and size of the receiving stream.



**New Discharges:** The Department will review the individual authorization application data and evaluate whether or not any of these compounds are present in the untreated wastewater based on the data (e.g., monitoring well) submitted. The Department will then evaluate any detected or known pollutants in Part III of the individual authorization where the limits are based on N.J.A.C. 7:14A-12 et seq: Appendix B Effluent Standards for Site Remediation Projects. Part III Attachment – BGR effluent Standards for Toxic Pollutants is included in this master BGR permit and lists the parameters and limits from Appendix B.

Consistent with the intent of 40 CFR 122.45(c) and N.J.A.C. 7:14A-13.14(b), monitoring data for toxic metals (excluding Hexavalent Chromium) shall be expressed as total recoverable.

Please refer to the “NJPDES Monitoring Report Form Reference Manual, available on the Department’s website at [https://dep.nj.gov/wp-content/uploads/dwq/mrf\\_manual.pdf](https://dep.nj.gov/wp-content/uploads/dwq/mrf_manual.pdf) for further information regarding reporting.

6. Whole Effluent Toxicity (WET):

Whole Effluent Toxicity (WET): The WET requirements are only applicable to those Table 1 dischargers where one or more toxic pollutant parameters are present. The Department has not established chronic WET requirements for Table 2 dischargers since short term discharges are not expected to exhibit long term chronic toxicity effects.

Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the NJSWQS at N.J.A.C. 7:9B-1.5(a)3 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the Department determines using site-specific WET data that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the NJSWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the NJSWQS and the NJPDES Regulations, the need for a WQBEL for WET was evaluated for these discharges.

There are two types of WET tests, acute toxicity testing which measures only the lethal effects (mortality) of the effluent on the test organisms, and chronic toxicity testing which measures the lethal and sublethal effects (i.e. growth and/or reproduction) of the effluent on the test organisms. The type of WET test required for a particular facility is determined by evaluating the mixing characteristics of the effluent (i.e. dilution factor) in the receiving water. The acute mixing zone and the chronic mixing zone are compared, and whichever results in a more stringent limit is used to regulate the discharge.

Given the potential for whole effluent toxicity effects to be present in contaminated groundwater, WQBELs for acute and chronic WET were calculated in accordance with N.J.A.C. 7:14A-13.6 and USEPA’s “Technical Support Document for Water Quality Based Toxics Control” (EPA/505/2-90-001), March 1991 (TSD).

When developing a general permit, conditions are streamlined to simplify the permit. Consequently, the Department did not consider site-specific dilution effects. As a result, in the master BGR permit for new discharges, WET limits are developed using an acute dilution factor (Dfa) of 1 and a chronic dilution factor (Dfc) of 1. The majority of discharges covered under the master BGR permit are routed to small waterbodies, therefore a dilution factor of 1 is reasonable. In the event that an applicant would prefer a site-specific dilution factor, the applicant always has the option to apply for an individual permit.

The Dfa and Dfc were used to determine acute and chronic Wasteload Allocations (WLAs) consistent with N.J.A.C. 7:14A-13.5, using a steady state model, as specified in section 5.4.1 of the TSD. Consistent with recommendations in the TSD, values of 0.3 acute toxic unit (TUa) and 1.0 chronic toxic unit (TUc) were used to interpret the narrative water quality criteria for WET contained at N.J.A.C. 7:9B-1.14(c) (see Response to Comments 13-74 through 13-89, 29 NJR 1861, (May 5, 1997)). The acute WLA (WLAa) was translated to equivalent chronic toxic units (WLAac), to enable comparison of acute and chronic WET limits, by multiplying the WLAa by a default acute to chronic ratio (ACR) of 10.

The acute and chronic WLAs were then converted to an acute Long Term Average (LTAac) of 0.96 TUacs and a chronic LTA (LTAc) of 0.53 TUCs, using a default coefficient of variation (CV) of 0.6, and multipliers of 0.321 and 0.527 for the acute and chronic LTAs respectively. Those multipliers are based on the 99th percentile consistent with Response to Comments 13-74 through 13-89, 29 NJR 1861 and are found on Page 102 of the TSD. The resultant long term average values were evaluated and the more protective (e.g. lower) value selected for translation into a daily maximum WET limit using the applicable 99th percentile multiplier, as found on Page 103 of the TSD. The daily maximum chronic WET limit of 1.64 TUCs was then converted to a permit limitation expressed as an IC25. The resultant applicable limitation is an IC25 = 61 % effluent.

### **WET Requirements applicable to Existing Discharges under Table 1:**

The Department analyzed the acute and chronic WET effluent data submitted by the individual BGR authorizations from January 1, 2022 to December 31, 2024, and concluded the following:

- A total of 195 chronic WET data points were reviewed from 40 facilities containing the chronic WET permit conditions:
  - 139 sample results were >100%, indicating that the discharges did not show any toxicity effects;
  - 48 sample results were attaining the chronic WET limit of IC25>61%;
  - 8 sampling results were in exceedance of the IC25>61%
- A total of 13 acute WET data points were reviewed from 6 facilities containing acute WET permit conditions:
  - 10 sample results were >100%, indicating that the discharges did not show any toxicity effects;
  - 3 sample results were reported at a value equal to 100 and thereby attaining the acute WET action level of LC50>50%

Based on review of the data, the acute and chronic WET limits have been retained from the existing authorizations. The test species, method, and monitoring frequency for existing discharges are specified in Part III of the individual authorizations, and in most all instances, have been retained from the existing permit.

Furthermore, many facilities that are renewing under this master BGR were originally issued individual NJPDES permits. Any acute or chronic WET requirements that were originally included in the individual NJPDES permit based on site specific data were retained in the 2010, 2015 and 2020 renewals and will also be retained in this master BGR permit renewal. As stated above, the limits for these sites were calculated based on site specific data and retained in accordance with N.J.A.C. 7:14- 13.19.

On January 5, 2009, the NJPDES Rules were readopted. This readoption repealed N.J.A.C. 7:14A-5.3(a) which contained the state minimum effluent standard for acute WET and instead adopted an acute WET action level of LC50>50% at N.J.A.C. 7:14A-13.18(f). Therefore, consistent with this requirement, the existing and effective acute WET action level of LC50>50% has been carried forward in this master BGR renewal. In addition, an acute WET action level will be included in the individual renewal authorizations where necessary. Monitoring and reporting will be required to determine whether the discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS.

Imposing an action level for acute WET will be equally protective of water quality as an effluent limit in this circumstance, since the violation of either the WET limitation or the action level carries with it the same enforceable permit condition to initiate the Toxicity Reduction and Implementation Requirements (TRIR), in order to correct the toxicity problem should this value be exceeded. As a result, the Department anticipates there will be no change in water quality as a result of this change. This change satisfies the antibacksliding provisions at N.J.A.C. 7:14A-13.19, which incorporate Section 402(o)3 of the Federal Clean Water Act, because it includes the TRIR provisions. Specifically, Section 402(o)3 prohibits the revision of an effluent limit “if the

implementation of such limitation would result in a violation of a water quality standard.” In this circumstance, violation of either the numerically identical action level or an effluent limitation will trigger an enforceable permit condition to conduct a TRIR in order to address or prevent a violation of a water quality standard.

### **WET Requirements applicable to New Discharges under Table 1:**

As stated above, most of the effluent data results indicated no toxicity (i.e. results of > 100%), but some existing effluent data showed toxicity for this category of dischargers. As a result, the Department has retained the chronic WET limitation of 61% in this master BGR permit renewal for new discharges when an additional toxic parameter is present. However, because new discharges do not have an existing WET database to assess whether or not toxicity is present, the Department determined it appropriate to impose WET requirements with a three year compliance schedule consistent with the NJPDES Regulations and as described below.

The resulting WET limit for new long term remediation discharges is equivalent to an IC25=61%. This limitation is consistent with the limitation included in the 2020 master BGR permit.

### **Compliance Schedule:**

**New discharges only under Table 1:** In accordance with N.J.A.C. 7:14A-6.4(a) and 13.21(b), a schedule to achieve compliance with the new chronic WET WQBEL has been included in this permit and is applicable for new discharges (i.e., not renewal authorizations). Specifically, monitoring and reporting requirements have been included for the first three years of the discharge authorization beginning with the effective date of the permit which is intended to become effective with the commencement of pumping. After that time the referenced limit of 61% is imposed. Refer to Section F. of the Fact Sheet below for further clarification.

### **Sample Location:**

**New and existing discharges under Table 1:** Effluent sampling for conducting WET testing shall be collected after the last treatment step, consistent with the collection location for all other parameters.

### **Test Species and Method:**

**New and existing discharges to fresh waters under Table 1:** The test species method to be used for chronic testing shall be the *Ceriodaphnia dubia*, Survival and Reproduction Test, 40 CFR 136.3, method 1002.0 and will be indicated in Part III of the individual authorization. Such selection is based on the freshwater characteristics of the receiving stream, N.J.A.C. 7:9B-1.5 and the Department’s “Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program” document. This document is included as Appendix A of this permit, in accordance with N.J.A.C. 7:14A-6.5, 11.2(a)2.iv. and 40 CFR Part 136. Inclusion of this species for new dischargers is consistent with the 2020 master BGR permit.

**New and existing discharges to saline waters under Table 1:** The test species method to be used for chronic testing shall be the *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, 40 CFR 136.3, method 1007.0 and will be indicated in Part III of the individual authorization. Such selection is based on the saline characteristics of the receiving stream, N.J.A.C. 7:9B-1.5 and the Department’s “Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program” document. This document is included as Appendix A of this permit, in accordance with N.J.A.C. 7:14A-6.5, 11.2(a)2.iv. and 40 CFR Part 136. Inclusion of this species for new dischargers is consistent with the 2020 master BGR permit.

### **Monitoring Frequency:**

**New and existing discharges under Table 1:** The monitoring frequency for chronic toxicity testing shall be quarterly consistent with the existing master BGR permit. The sample type shall be composite.

The Department reserves the right to impose a quarterly monitoring frequency depending on the size of the discharge and receiving waterbody. In addition, as specified in Part IV, the monitoring frequency for discharges may be reduced to semi-annual, annual or another alternate frequency, if deemed appropriate, if four consecutive data results are greater than (>) 100%. Any such reduction may be incorporated as a minor modification as indicated in Part IV.

#### Toxicity Reduction Implementation Requirements (TRIRs):

**New and existing discharges under Table 1:** TRIRs are included for new and existing discharges in accordance with N.J.A.C. 7:14A-13.17(a), 7:14A-6.2(a)5 and recommendations in Section 5.8 of the TSD. The requirements are necessary to ensure compliance with the applicable WET toxicity limitation/action level on its effective date and to expedite compliance with the WET toxicity limitation/action level should exceedances of the WET limitation/action level occur. As included in section B.1 of the TRIR requirements, the initial step of the TRIR is to identify the variability of the effluent toxicity and to verify that a consistent toxicity problem does in fact exist.

### **D. Description of Monitoring Frequencies, Expiration Date and Revocation Process:**

#### 1. Monitoring Frequencies for all Parameters (except WET):

**Existing Discharges under Table 1:** Monitoring for existing discharges shall be set at the frequency specified in Part III of the individual authorization. As stated in Part IV, the monitoring frequency may be reduced, which is consistent with N.J.A.C. 7:14A-14.2(a), so long as certain criteria is met. Factors that the Department will consider in evaluating a monitoring frequency reduction for an existing discharger include consistent compliance, facility flow and number of data points.

**New Discharges under Table 1:** A monthly monitoring frequency is specified for all parameters, with the exception of WET. This frequency is consistent with other long-term remediation projects. Less frequent monitoring may be required based on the facility flow, size of the receiving stream and the type and level of contaminants present in the untreated water. As specified in Part IV, the monitoring frequency may be decreased based on consistent compliance.

**New Discharges under Table 2:** Due to the short term and intermittent nature of dewatering and pump test activities, the monitoring frequency is set as follows:

| <b>Duration of Discharge<br/>(Expected)</b> | <b>1 Month or Less</b> | <b>1 to 3 Months</b> | <b>Greater than 3 Months</b> |
|---|------------------------|----------------------|------------------------------|
| Sampling Frequency                          | Once every 4 days      | Once per week        | Once every 2 weeks           |

The Department reserves the right on a case-by-case basis to utilize the monitoring frequencies set forth in Table 2 for short term discharges of greater than 6 months.

Short term applicants may request a reduction of monitoring frequency following the collection of at least 7 data points.

#### 2. Expiration Date of the Master BGR Permit and Individual BGR Authorizations:

In accordance with N.J.A.C. 7:14A-2.7, all NJPDES permits shall be issued for a fixed term not to exceed five (5) years. Therefore, the Department will issue an individual BGR authorization with an expiration date consistent with the expiration date of the master BGR permit regardless of the duration of the discharge.

### 3. Revocation of Individual Authorization after Completion of Discharge:

When the discharge to surface water has permanently ceased the permittee shall request revocation of its individual authorization under the master BGR permit. The permittee can obtain the necessary revocation form by accessing [https://dep.nj.gov/wp-content/uploads/dwq/pdf/forms\\_and\\_checklists/njpdes4.pdf](https://dep.nj.gov/wp-content/uploads/dwq/pdf/forms_and_checklists/njpdes4.pdf) or by contacting the Department's Bureau of Ground Water, Residuals and Permit Administration at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.

During the revocation process, the Monitoring Report Forms (MRFs) must continue to be submitted even after the discharge is ceased until such time as the MRFs are inactivated or the permit is revoked.

Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. Then, the Department will officially revoke such individual authorization by issuing a final revocation package to the permittee.

### **E. Effluent Monitoring Frequencies and Sample Types:**

Monitoring frequencies and sample types are in accordance with N.J.A.C. 7:14A, unless specified otherwise in the permit.

### **F. Use of Sufficiently Sensitive Test Methods (SSTM) for Reporting:**

When more than one test procedure is approved under this part for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136, 122.21(e)(3), and 122.44(i)(1)(iv).

An EPA-approved method is sufficiently sensitive where:

- A. The method minimum level is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or
- B. The method minimum level is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
- C. The method has the lowest minimum level of the EPA-approved analytical methods.

When there is no analytical method that has been approved under 40 CFR part 136, required under 40 CFR chapter I, subchapter N or O, and is not otherwise required by the Department, the permittee may use any suitable method upon approval by the Department.

For questions regarding the applicability of the rule and whether or not the facility is complying with the target level of sensitivity, contact Stephen Seeberger of the Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860 or via email at [Stephen.Seeberger@dep.nj.gov](mailto:Stephen.Seeberger@dep.nj.gov).

The SSTM Frequency Asked Questions (FAQs) document is available on the Department's website at <https://dep.nj.gov/wp-content/uploads/dwq/pdf/sstm-faq.pdf>.

For questions regarding laboratory methodologies, certifications, or specifics relating to quantitation limits associated with individual test methods, contact the Office of Quality Assurance at (609) 292-3950 or via email at [OQA@dep.nj.gov](mailto:OQA@dep.nj.gov).

### **G. Compliance Schedule:**

In accordance with N.J.A.C. 7:14A-6.4(a) and N.J.A.C. 7:14A-13.21(b), a schedule of achieve compliance with a new chronic WET WQBEL has been included in this master BGR permit renewal and is applicable for new discharges/authorizations (i.e., not renewal authorizations). The compliance schedule time frame is established at three years and is modeled after the schedule applied to new source, new dischargers or expanded direct discharges at N.J.A.C. 7:14A-12.31(c).

**New Discharges under Table 1:** The Department will set initial and final phases for chronic WET in the individual authorization as follows:

1. During the "initial" phase, chronic WET monitoring conditions are effective from the effective date of the permit (EDP) until EDP + 36 months.
2. During the "final" phase, a chronic WET effluent limitation of IC25=61% will become effective on EDP + 36 months.

**New Discharges under Table 2:** A chronic WET limitation does not apply given the short-term nature of the discharge.

### **H. Reporting Requirements:**

All data requested to be submitted by this permit shall be reported on the MRFs as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

#### **Electronic Reporting Requirements:**

On October 22, 2015, the USEPA promulgated the final NPDES Electronic Reporting Rule (see Federal Register 80:204 p. 64064). This rule requires entities regulated under the CWA NPDES program to report certain information electronically instead of filing paper reports.

In accordance with this rule, all required monitoring results reported on MRFs shall be electronically submitted to the Department via the Department's Electronic MRF Submission Service. In addition, with this rule, the following documents shall be electronically submitted to the Department:

- Requests for authorization (i.e. RFAs) under this general permit
- Requests for termination/revocation under this general permit

Consistent with the provisions of the final rule, the permittee may seek a waiver from the mandatory electronic reporting of the above identified documents and reports for just cause. Such a request shall be made in accordance with the provisions of 40 CFR 127.15 and submitted to the Department at the address identified below:

NJDEP: Division of Water Quality  
Mail Code 401-02B  
Permit Administration Section  
P.O. Box 420  
401 E. State Street  
Trenton, NJ 08625-0420

Please refer to Part II of this permit action for further details regarding the reporting requirements as a result of the Electronic Reporting Rule.

**I. General Conditions:**

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

**J. Outfall Tag:**

Pursuant to N.J.A.C. 7:14A-6.2(a)9, the permittee shall notify the Department that a tag to mark the location of the outfall pipe has been installed on or before the start of discharge. The permittee shall ensure that all outfall tags are installed and maintained in accordance with N.J.A.C. 7:14A-6.2(a)9.

For short term discharges or mobile treatment units/systems, the permittee shall use a sign that is visible, describes the outfall designation and must be displayed in a practical manner.

**K. Treatment Works Approval (TWA):**

Prior to discharge and upon issuance of a new individual authorization or where treatment has been modified, a General Industrial Treatment Works Approval (GI TWA) may be required for the construction of a treatment works (N.J.A.C. 7:14A-22) to enable attainment of the limits and conditions of the NJPDES permit.

If you have any questions regarding the TWA, please contact the Bureau of Ground Water, Residuals and Permit Administration at (609) 984-4428 or via email at [dwq\\_twa@dep.nj.gov](mailto:dwq_twa@dep.nj.gov).

**L. Operator Classification Number:**

The operator classification requirement is no longer included in the permit. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Ground Water, Residuals and Permit Administration at (609) 984-4428 or via email at [dwq\\_twa@dep.nj.gov](mailto:dwq_twa@dep.nj.gov).

**M. Flow Related Conditions:**

Groundwater remediations such as those regulated under this permit are not included in the applicable Water Quality Management Plan and/or Wastewater Management Plan for each individual request for authorization.

**N. Water Allocation:**

Any project that exceeds 100,000 gallons per day for a period of 30 days or more may require a Water Allocation Permit for the diversion of ground and/or surface water. In addition, for temporary ground and surface water control diversions (dewatering) in excess of 100,000 gallons of water per day, may require a Dewatering Allocation Permit, or Dewatering Permit-by-Rule or Short Term Permit-by-Rule depending on the duration of the diversion and the method employed. Further information can be found on the Department's website at [https://www.nj.gov/dep/watersupply/a\\_wtable.html](https://www.nj.gov/dep/watersupply/a_wtable.html).

If you have any questions regarding the Water Allocation Permit, please contact by contacting the Division of Water Supply and Geoscience at (609) 984-6831 or via email at [waterallocation@dep.nj.gov](mailto:waterallocation@dep.nj.gov).

**O. Residuals/Sludge Conditions:**

All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residuals management. Generally, the permit issued to the treatment works generating the residual will include applicable residual quality monitoring as well as other general conditions required by N.J.A.C. 7:14A-6. In addition, the permit may include conditions related to any aspect of residual management developed on a case-by-case basis where the Department determines that such conditions are necessary to protect public health and the environment.

New and existing discharges that generate a non-hazardous sludge may be required under an individual general permit authorization to submit quality, quantity and removal information on Residuals discharge monitoring reports pursuant to the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C). In cases where sludge quality information is required pursuant to SQAR, the industrial treatment works in the specified categories (see N.J.A.C. 7:14C-1.5) shall analyze the sludge removed for use or disposal for any of the parameters listed in the Appendix, Tables I through VII, that are expected to be present in the sludge removed from the facility. These tables may be found in N.J.A.C. 7:14C and are included as “Part III Attachment - Residuals” of the master BGR permit. The monitoring requirements for existing discharges that generate a sludge subject to SQAR are included in Part III Attachment - Residuals: Tables 1 and 2.

The documents listed below have been used to establish the residual conditions of the Draft Permit:

- a. USEPA “Standards for the use or disposal of sewage sludge” (40 CFR Part 503),
- b. “NJPDES” (N.J.A.C. 7:14A),
- c. Technical Manual for Residuals Management, May 1998,
- d. USEPA Part 503 Implementation Guidance, EPA 833-R-95-001, October 1995. This document is a compilation of federal requirements, management practices and USEPA recommended permit conditions for sewage sludge use and management practices,
- e. USEPA A Plain English Guide to the EPA Part 503 Biosolids Rule, EPA/832/R-93/003, September 1994,
- f. New Jersey “Statewide Sludge Management Plan”, January 2006 and
- g. New Jersey SQAR, N.J.A.C. 7:14C.

#### **P. Treatment Additives:**

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

A request shall be submitted in writing (via email) to the Department’s Bureau of Surface Water and Pretreatment Permitting at [dwq\\_bswp@dep.nj.gov](mailto:dwq_bswp@dep.nj.gov) 30 days before the anticipated use. The request shall describe the use of such chemical addition agents, including information pertaining to dosage rates, frequency of dosage and the Safety Data Sheet for the product(s). The Department will then evaluate the request and notify the permittee in writing (via email) as to whether the product(s) can be utilized under the conditions of the individual authorization under the permit.

In accordance with N.J.A.C. 7:14A-22.4(a)7, a treatment works approval (TWA) modification is not required for chemical addition where it is used for purposes of improving treatment system performance.

#### **Q. Delaware River Basin Commission (DRBC):**

As requested by the DRBC, effluent monitoring requirements for Total Dissolved Solids (TDS) are included as a monthly average and daily maximum for concentration and loading for those facilities that discharge to the Delaware River Basin in any new or existing individual authorization. These monitoring conditions are required by DRBC to evaluate the TDS concentration level in the effluent and ensure that it will not exceed the basin wide limitation of 1,000 mg/L, in accordance with the Effluent Quality Requirements of the DRBC Water Quality Regulations at Section 3.10.4.D.2. Refer to Part IV, Section D.2. for more information.

#### **R. Perfluoroalkyl and Polyfluoroalkyl (PFAS) Compounds:**

PFAS are a family of manmade chemicals that have been used in industrial and commercial applications for over 70 years. PFAS, also known as “forever chemicals,” repel water and oil and are resistant to heat and chemical reactions. PFAS are extremely persistent in the environment and soluble and mobile in water. PFAS are developmental toxicants, liver toxicants, and immune system toxicants that are probable carcinogens and bioaccumulate in animal



and human tissue. Since these chemicals are persistent and heavy, they may settle at the bottoms of tanks and pits and be present long after PFAS-containing chemicals were used.

The Department has been made aware that there may be facilities that are in the process of installing treatment units to address PFAS. As a result, the Department may include monitoring and reporting requirements, in accordance with N.J.A.C. 7:14A-6.2(a)14, for the PFAS substances listed below to assess any levels that may be present in the effluent.

- C4 – Perfluorobutanoic Acid (PFBA)
- C5 – Perfluoropentanoic Acid (PFPeA)
- C6 – Perfluorohexanoic acid (PFHxA)
- C7 – Perfluoroheptanoic acid (PFHpA)
- C8 – Perfluorooctanoic acid (PFOA)
- C9 – Perfluorononanoic acid (PFNA)
- C10 – Perfluorodecanoic acid (PFDA)
- C11 – Perfluoroundecanoic acid (PFUnA)
- C12 – Perfluorododecanoic acid (PFDoA)
- C13 – Perfluorotridecanoic acid (PFTriA)
- C14 – Perfluorotetradecanoic acid (PFTeA)
- C4-S – Perfluorobutanesulfonic acid (PFBS)
- C6-S – Perfluorohexanesulfonic acid (PFHxS)
- C8-S – Perfluorooctanesulfonic acid (PFOS)
- GenX chemicals including Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) and its Ammonium Salt

These monitoring and reporting requirements will be included on a case-by-case basis in addition to the effluent limitations and monitoring conditions specified in any new or existing individual authorization. The PFAS sample(s) shall be analyzed by a New Jersey certified laboratory certified for EPA Method 1633 or another approved, non-potable water, user-defined analytical method which can detect all the above listed PFAS. New Jersey Certified Laboratories must be certified for PFNA, PFOA, and PFOS, at a minimum. The permittee shall ensure that the method used provides sufficiently low detection levels. A detection level of less than any drinking water criterion would be sufficient to determine if the PFAS are detected in the effluent. A list of certified laboratories can be obtained at <https://njems.nj.gov/DataMiner>.

#### **4 Type and Quantity of the Wastes or Pollutants:**

This master BGR general permit continues to regulate surface water discharges resulting from the treatment of non-petroleum contaminated water. Based on historical data, the typical non-petroleum pollutants include volatile organic compounds (VOCs), semi-volatile compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs) and metals. The Permit Summary Table (PST) near the end of this fact sheet contains a summary of the quantity and quality of pollutants treated and discharged from the facilities covered under this master BGR permit.

#### **5 Receiving Waterbody Classification:**

##### **A. Waterbody Classifications and Designated Uses as per the SWQS:**

Waterbodies are classified in the SWQS at N.J.A.C. 7:9B-1.1 et seq. with various waterbody designations. In accordance with the SWQS, saline waters are considered to be those waters classified as Saline Estuary (SE)1, SE2, SE3, or Saline Coastal (SC) and fresh waters are considered to be those waters classified as Fresh Water (FW)1 or FW2 waters. For waters with two classifications (e.g., FW2-NT/SE1), the waterbody is defined as saline if the result of a salinity measurement exceeds 3.5 parts per thousand at mean high tide or as fresh if the salinity is less than or equal to 3.5 parts per thousand, in accordance with N.J.A.C. 7:9B-1.4.

The designated uses for the following waterbody designations (FW2, SE1, SE2, SE3, and SC) are as follows:

*Freshwater 2 (FW2):*

1. Maintenance, migration and propagation of the natural and established biota;
2. Primary and secondary contact recreation;
3. Industrial and agricultural water supply;
4. Public potable water supply after conventional filtration treatment (a series of processes including filtration, flocculation, coagulation, and sedimentation, resulting in substantial particulate removal but no consistent removal of chemical constituents) and disinfection; and
5. Any other reasonable uses.

*Saline Estuary 1 (SE1):*

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;
2. Maintenance, migration and propagation of the natural and established biota;
3. Primary and secondary contact recreation; and
4. Any other reasonable uses.

*Saline Estuary 2 (SE2):*

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

*Saline Estuary 3 (SE3):*

1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses.

*Saline Coastal (SC):*

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;
2. Primary and secondary contact recreation;
3. Maintenance, migration and propagation of the natural and established biota; and
4. Any other reasonable uses.

Also, consistent with N.J.A.C. 7:9B-1.4, the definitions for C1 Waters, C2 Waters, as associated with the waterbody classifications are as follows:

*Category One Waters (C1):*

Refers to those waters designated in the tables in N.J.A.C. 7:9B-1.15(c) through (i), for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d). This includes protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).

*Category Two Waters (C2):*

Refers to those waters at N.J.A.C. 7:9B-1.15 that are not designated as Outstanding National Resource Waters (ONRW) or C1 for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d).

The SWQS also form the basis for the Department's Integrated Water Quality Monitoring and Assessment Report, which is developed pursuant to Sections 303(d) and 305(b) of the CWA. Sublist 5 of this Report lists the pollutant specific water quality impairments for the State's waters (303(d) list).

## **B. Waterbody Classifications and Designated Uses as per the DRBC Water Quality Regulations:**

The designated uses for the mainstem Delaware River and Delaware Bay are those contained in the "Delaware River Basin Commission, Water Quality Regulations, Administrative Manual - Part III," Article 3, dated December 4, 2013, including all amendments and future supplements thereto and are described below:

### *Zones 1C, 1D and 1E:*

Zone 1C is that part of the Delaware River extending from the U.S. Routes 6 and 209 bridge at Port Jervis, New York, R.M. 254.75, to Tocks Island Dam, 217.0 (proposed axis of dam).

### *Zone 1D:*

Zone 1D is that part of the Delaware River extending from Tocks Island Dam, R.M. 217.0 (proposed axis of dam), to the mouth of the Lehigh River at Easton, Pennsylvania, R.M. 183.66.

### *Zone 1C:*

Zone 1C is that part of the Delaware River extending from the U.S. Routes 6 and 209 bridge at Port Jervis, New York, R.M. 254.75, to Tocks Island Dam, 217.0 (proposed axis of dam).

### *Zone 1E:*

Zone 1E is that part of the Delaware River extending from the mouth of the Lehigh River at Easton, Pennsylvania, R.M. 183.66, to the head of tidewater at Trenton, New Jersey, R.M. 133.4 (Trenton-Morrisville Toll Bridge).

The quality of Zone 1C, 1D and 1E waters shall be maintained in a safe and satisfactory condition for the following uses:

1. a. public water supplies after reasonable treatment,  
b. industrial water supplies after reasonable treatment,  
c. agricultural water supplies;
2. a. maintenance and propagation of resident game fish and other aquatic life,  
b. spawning and nursery habitat for anadromous fish,  
c. passage of anadromous fish,  
d. wildlife;
3. recreation.

### *Zone N2:*

Zone N2 is: Clove Brook extending from its source in Steeny Kill Lake in New Jersey to its mouth in New York at R.M. 0.5 on the Neversink River; an unnamed tributary of Clove Brook extending from its source in New York to its mouth in New Jersey at R.M. 1.0 on Clove Brook; an unnamed tributary to the above unnamed tributary of Clove Brook extending from its source in New York to its mouth in New Jersey at R.M. 0.7 on the unnamed tributary of Clove Brook.

The quality of Zone N2 waters shall be maintained in a safe and satisfactory condition for the following uses:

1. a. public water supplies after reasonable treatment,  
b. industrial water supplies after reasonable treatment,  
c. agricultural water supplies;
2. a. maintenance and propagation of resident game fish and other aquatic life,  
b. maintenance and propagation of trout,  
c. wildlife;
3. recreation.

### *Zone 2:*

Zone 2 is that part of the Delaware River extending from the head of tidewater at Trenton, New Jersey, R.M. (River Mile) 133.4 (Trenton-Morrisville Toll Bridge) to R.M. 108.4 below the mouth of Pennypack Creek, including the tidal portions of the tributaries thereof.

The quality of Zone 2 waters shall be maintained in a safe and satisfactory condition for the following uses:

1. a. public water supplies after reasonable treatment,  
b. industrial water supplies after reasonable treatment,  
c. agricultural water supplies;
2. a. maintenance and propagation of resident fish and other aquatic life,  
b. passage of anadromous fish,  
c. wildlife;
3. recreation;
4. navigation.

*Zone 3:*

Zone 3 is that part of the Delaware River extending from R.M. 108.4 to R.M. 95.0 below the mouth of Big Timber Creek, including the tidal portions of the tributaries thereof.

The quality of Zone 3 waters shall be maintained in a safe and satisfactory condition for the following uses:

1. a. public water supplies after reasonable treatment,  
b. industrial water supplies after reasonable treatment,  
c. agricultural water supplies;
2. a. maintenance of resident fish and other aquatic life,  
b. passage of anadromous fish,  
c. wildlife;
3. recreation - secondary contact;
4. navigation.

*Zone 4:*

Zone 4 is that part of the Delaware River extending from R.M. 95.0 to R.M. 78.8, the Pennsylvania-Delaware boundary line, including the tidal portions of the tributaries thereof.

The quality of Zone 4 waters shall be maintained in a safe and satisfactory condition for the following uses:

1. industrial water supplies after reasonable treatment;
2. a. maintenance of resident fish and other aquatic life,  
b. passage of anadromous fish,  
c. wildlife;
3. a. recreation - secondary contact above R.M. 81.8,  
b. recreation below R.M. 81.8;
4. navigation.

*Zone 5:*

Zone 5 is that part of the Delaware River extending from R.M. 78.8 to R.M. 48.2, Liston Point, including the tidal portions of the tributaries thereof.

The quality of waters in Zone 5 shall be maintained in a safe and satisfactory condition for the following uses:

1. industrial water supplies after reasonable treatment;
2. a. maintenance of resident fish and other aquatic life,  
b. propagation of resident fish from R.M. 70.0 to R.M. 48.2,  
c. passage of anadromous fish,  
d. wildlife;
3. recreation;
4. navigation.

*Zone 6:*

Zone 6 is Delaware Bay extending from R.M. 48.2 to R.M. 0.0, the Atlantic Ocean, including the tidal portions of the tributaries thereof.

The quality of Zone 6 waters shall be maintained in a safe and satisfactory condition for the following uses:

1. a. industrial water supplies after reasonable treatment,
2. a. maintenance and propagation of resident fish and other aquatic life,  
b. maintenance and propagation of shellfish,  
c. passage of anadromous fish,  
d. wildlife;
3. recreation;
4. navigation.

## **8 Description of Procedures for Reaching a Final Decision on the Draft Action:**

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Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in the newspapers below and in the *DEP Bulletin* available at <https://dep.nj.gov/bulletin/>.

*Courier Post, The Daily Record, The Press of Atlantic City, The Star Ledger, South Jersey Times, and The Times*

## **9 Contact Information**

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If you have any questions regarding this permit action, please contact Tara Klimowicz or Kevin Johnson of the Bureau of Surface Water and Pretreatment Permitting. Both can be reached either by phone at (609) 292-4860 or via e-mail at [Tara.Klimowicz@dep.nj.gov](mailto:Tara.Klimowicz@dep.nj.gov) or [Kevin.Johnson@dep.nj.gov](mailto:Kevin.Johnson@dep.nj.gov).

## 11 Master BGR Permit Summary Table (PST)

| Parameter   | Units         | Averaging Period               | Table 1<br>Final Limits<br>(1) (2)                             | Table 2<br>Final Limits<br>(1) (2)                             |
|---|---------------|--------------------------------|--|--|
| Flow  | MGD           | Monthly Avg.<br>Daily Max.     | MR<br>MR   | MR<br>MR   |
| pH Range  | SU            | Instant. Min.<br>Instant. Max. | 6.0<br>9.0   | 6.0<br>9.0   |
| Total Suspended Solids (TSS)  | mg/L          | Monthly Avg.<br>Weekly Avg.    | MR<br>40 (3)   | MR<br>40 (3)   |
| Total Organic Carbon (TOC)  | mg/L          | Monthly Avg.<br>Daily Max.     | MR<br>20   | MR<br>20   |
| Acute Toxicity, LC50 or NOAEC   | %<br>effluent | Minimum                        | MR (Action Level)<br>(4)                                       | --   |
| Chronic Toxicity, IC25  | %<br>effluent | Minimum                        | 61 (4) (5)   | --   |
| Other Metals, Volatiles Organics, Base/Neutral Compounds, Acid Extractables, Pesticides or PCBs | µg/L          | Monthly Avg.<br>Daily Max.     | Applied as needed in Part III of the Individual Authorizations | Applied as needed in Part III of the Individual Authorizations |

### Footnotes and Abbreviations:

Dashes (--) indicate there is no effluent data, no limitations or no monitoring for this parameter depending on the column in which it appears.

MGD – Million gallons per Day  
MR – Monitor and Report

mg/L - Milligrams per liter  
µg/L - Micrograms per liter

SU – Standard Units

- (1) Table 1 is for new or renewed long term discharges; Table 2 is for new short term discharges.
- (2) Monitoring for residuals may be imposed for any of the parameters indicated in Part III-Residuals. Monitoring will be specified in Part III of the individual authorization and will be imposed on an annual basis.
- (3) The TSS daily maximum effluent limit is 25 mg/L for FW2-TP (C2) and FW2-TM (C2) waters.
- (4) Unless otherwise specified in the individual authorization, the WET limit or action level is retained based on the existing permit.
- (5) For new (long-term) BGR authorizations, a WET limit of 61% shall become effective after 3 years from the start date of the individual authorization.

## 12 Effluent Monitoring Report Form Data Summary from Individual Authorizations

Effluent data from the individual permittee's DMRs were summarized for the time period of January 1<sup>st</sup>, 2022 to December 31<sup>st</sup>, 2024, during which there was a total of ninety-three (93) authorized NJPDES DSW BGR individual authorization. DMR results reported with No Observable Discharge Identified (NODI) were not included in the total number of non-detectable effluent sampling results.

### Required BGR Conventional and Non-Conventional Parameters

| Parameter                    | Units | Averaging Period        | Number of Non-detected Values | Number of Detected Values | Average Detected Values | Maximum Detected Value |
|------------------------------|-------|-------------------------|-------------------------------|---------------------------|-------------------------|------------------------|
| pH                           | SU    | Monthly Average Minimum | 0                             | 411                       | 7.25                    | 4.13                   |
|                              |       | Instantaneous Minimum   | 0                             | 509                       | 7.3                     | 6.02                   |
|                              |       | Monthly Average Maximum | 0                             | 398                       | 7.42                    | 11.98                  |
|                              |       | Monthly Average Minimum | 0                             | 411                       | 7.25                    | 4.13                   |
| Total Suspended Solids (TSS) | mg/L  | Monthly Average         | 576                           | 292                       | 15.83                   | 1030                   |
|                              |       | Weekly Average          | 33                            | 3                         | 7.87                    | 12                     |
|                              |       | Daily Maximum           | 531                           | 290                       | 18.44                   | 1030                   |
| Total Organic Carbon (TOC)   | mg/L  | Monthly Average         | 279                           | 585                       | 2.58                    | 89                     |
|                              |       | Weekly Average          | 9                             | 27                        | 1.35                    | 3.91                   |
|                              |       | Daily Maximum           | 269                           | 519                       | 2.79                    | 89                     |

### Footnotes and Abbreviations:

mg/L - Milligrams per liter  
SU – Standard Units

### Whole Effluent Toxicity (WET)

| Parameter   | Units      | Averaging Period | Number of Non-detected Values | Number of Detected Values | Average Detected Values | Minimum Detected Value |
|---|------------|------------------|-------------------------------|---------------------------|-------------------------|------------------------|
| Acute Toxicity, LC50 <i>Ceriodaphnia dubia</i>    | % Effluent | Minimum          | 2                             | 0                         | >100                    | >100                   |
| Acute Toxicity, LC50 <i>Pimephales promelas</i>   | % Effluent | Minimum          | 3                             | 0                         | >100                    | >100                   |
| Acute Toxicity, LC50 <i>Mysidopsis bahia</i>      | % Effluent | Minimum          | 5                             | 0                         | >100                    | >100                   |
| Acute Toxicity, NOAEC <i>Pimephales promelas</i>  | % Effluent | Minimum          | 0                             | 3                         | 100                     | 100                    |
| Chronic Toxicity, IC25 <i>Ceriodaphnia dubia</i>  | % Effluent | Minimum          | 117                           | 44                        | 86.82                   | 13.5                   |
| Chronic Toxicity, IC25 <i>Mysidopsis bahia</i>    | % Effluent | Minimum          | 16                            | 9                         | 83.9                    | 0.285                  |
| Chronic Toxicity, IC25 <i>Pimephales promelas</i> | % Effluent | Minimum          | 8                             | 1                         | 5                       | 5                      |

### Auxiliary Regulated Conventional and Non-Conventional Parameters

| Parameter                               | Units         | Averaging Period          | Number of Non-detected Values | Number of Detected Values | Average Detected Values | Maximum Detected Value |
|---|---------------|---------------------------|-------------------------------|---------------------------|-------------------------|------------------------|
| BOD, 5-Day (20 oC)                      | mg/L          | Monthly Average           | 13                            | 23                        | 3.09                    | 19.6                   |
|   |               | Weekly Average            | 13                            | 23                        | 3.09                    | 19.6                   |
| Chemical Oxygen Demand (COD)            | mg/L          | Monthly Average           | 1                             | 12                        | 17.6                    | 25                     |
|   |               | Daily Maximum             | 1                             | 12                        | 21.68                   | 69.6                   |
| Oxygen Demand, Chem. (High Level) (COD) | mg/L          | Monthly Average           | 14                            | 13                        | 14.61                   | 35                     |
|   |               | Weekly Average            | 15                            | 8                         | 18.5                    | 35                     |
|   |               | Daily Maximum             | 6                             | 5                         | 8.38                    | 10                     |
| Chlorine Produced Oxidants (CPO)        | mg/L          | Monthly Average           | 5                             | 7                         | 0.036                   | 0.04                   |
|   |               | Daily Maximum             | 5                             | 7                         | 0.036                   | 0.04                   |
| Fecal Coliform                          | #CFUs / 100mL | Monthly Geometric Average | 1                             | 1                         | >600                    | >600                   |
|   |               | Weekly Geometric Average  | 1                             | 1                         | >600                    | >600                   |
| Oil and Grease                          | mg/L          | Monthly Average           | 7                             | 0                         | <5.6                    | <5.6                   |
|   |               | Instantaneous Maximum     | 7                             | 0                         | <5.6                    | <5.6                   |
| Petroleum Hydrocarbons                  | mg/L          | Monthly Average           | 81                            | 14                        | 1.46                    | 4.9                    |
|   |               | Daily Maximum             | 59                            | 15                        | 1.98                    | 4.9                    |
|   |               | Instantaneous Maximum     | 21                            | 0                         | <5                      | <5                     |
| Phosphorus, Total (as P)                | mg/L          | Monthly Average           | 0                             | 6                         | 0.03                    | 0.06                   |
|   |               | Daily Maximum             | 0                             | 6                         | 0.03                    | 0.06                   |
| Temperature                             | °C            | Monthly Average           | 0                             | 13                        | 16.2                    | 19.2                   |
|   |               | Daily Maximum             | 0                             | 13                        | 16.2                    | 19.2                   |
| Solids, Total Dissolved (TDS)           | mg/L          | Monthly Average           | 0                             | 26                        | 705                     | 1678                   |
|   |               | Daily Maximum             | 0                             | 26                        | 731                     | 1940                   |

#### **Footnotes and Abbreviations:**

mg/L - Milligrams per liter  
 #CFUs / 100mL –colony forming units per 100 milliliters  
 SU – Standard Units  
 °C - Degrees Celsius



### Auxiliary Regulated Toxic Pollutant Parameters

| Parameter                           | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average Detected Values | Maximum Detected Value |
|-------------------------------------|-------|------------------|-------------------------------|---------------------------|-------------------------|------------------------|
| 1,1,1-Trichloroethane               | µg/L  | Monthly Average  | 147                           | 79                        | 1.43                    | 2.5                    |
|                                     |       | Daily Maximum    | 147                           | 79                        | 1.42                    | 3                      |
| 1,1,2,2-Tetrachloroethane           | µg/L  | Monthly Average  | 44                            | 47                        | 0.85                    | 1                      |
|                                     |       | Daily Maximum    | 44                            | 47                        | 0.85                    | 1                      |
| 1,1,2-Trichloroethane               | µg/L  | Monthly Average  | 78                            | 81                        | 1.29                    | 2                      |
|                                     |       | Daily Maximum    | 78                            | 81                        | 1.29                    | 2                      |
| 1,1-Dichloroethane                  | µg/L  | Monthly Average  | 166                           | 25                        | 1.41                    | 3.6                    |
|                                     |       | Daily Maximum    | 166                           | 25                        | 1.41                    | 3.6                    |
| 1,1-Dichloroethylene                | µg/L  | Monthly Average  | 160                           | 54                        | 0.9                     | 2.6                    |
|                                     |       | Daily Maximum    | 160                           | 54                        | 0.91                    | 2.6                    |
| 1,2,4-Trichlorobenzene              | µg/L  | Monthly Average  | 28                            | 0                         | <1.3                    | <1.3                   |
|                                     |       | Daily Maximum    | 28                            | 0                         | <1.3                    | <1.3                   |
| 1,2-Dichlorobenzene                 | µg/L  | Monthly Average  | 58                            | 45                        | 1                       | 2.8                    |
|                                     |       | Daily Maximum    | 58                            | 45                        | 1                       | 2.8                    |
| 1,2-Dichloroethane                  | µg/L  | Monthly Average  | 161                           | 29                        | 0.34                    | 0.91                   |
|                                     |       | Daily Maximum    | 161                           | 29                        | 0.34                    | 0.91                   |
| 1,2-Dichloropropane                 | µg/L  | Monthly Average  | 7                             | 0                         | <0.35                   | <0.35                  |
|                                     |       | Daily Maximum    | 7                             | 0                         | <0.35                   | <0.35                  |
| 1,3-Dichlorobenzene                 | µg/L  | Monthly Average  | 30                            | 0                         | <2.0                    | <2.0                   |
|                                     |       | Daily Maximum    | 30                            | 0                         | <2.0                    | <2.0                   |
| 1,3-Dichloropropene                 | µg/L  | Monthly Average  | 35                            | 1                         | 0.22                    | 0.22                   |
|                                     |       | Daily Maximum    | 35                            | 1                         | 0.22                    | 0.22                   |
| 1,4 Dioxane                         | µg/L  | Monthly Average  | 12                            | 46                        | 8.49                    | 160                    |
|                                     |       | Daily Maximum    | 12                            | 46                        | 12.09                   | 320                    |
| 1,4-Dichlorobenzene                 | µg/L  | Monthly Average  | 30                            | 0                         | <0.63                   | <0.63                  |
|                                     |       | Daily Maximum    | 30                            | 0                         | <0.63                   | <0.63                  |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | µg/L  | Monthly Average  | 7                             | 0                         | <1.0                    | <1.0                   |
|                                     |       | Daily Maximum    | 7                             | 0                         | <1.0                    | <1.0                   |
| 2,4,6-Trichlorophenol               | µg/L  | Monthly Average  | 7                             | 0                         | <0.89                   | <0.89                  |
|                                     |       | Daily Maximum    | 7                             | 0                         | <0.89                   | <0.89                  |
| 2,4-Dichlorophenol                  | µg/L  | Monthly Average  | 47                            | 0                         | <10                     | <10                    |
|                                     |       | Daily Maximum    | 47                            | 0                         | <10                     | <10                    |
| 2,4-Dimethylphenol                  | µg/L  | Monthly Average  | 46                            | 1                         | 0.91                    | 0.91                   |
|                                     |       | Daily Maximum    | 46                            | 1                         | 0.91                    | 0.91                   |
| 2,4-Dinitrophenol                   | µg/L  | Monthly Average  | 8                             | 0                         | <13.0                   | <13.0                  |
|                                     |       | Daily Maximum    | 8                             | 0                         | <13.0                   | <13.0                  |
| 2,4-Dinitrotoluene                  | µg/L  | Monthly Average  | 47                            | 0                         | <2                      | <2                     |
|                                     |       | Daily Maximum    | 47                            | 0                         | <2                      | <2                     |
| 2,6-Dinitrotoluene                  | µg/L  | Monthly Average  | 7                             | 0                         | <1.4                    | <1.4                   |
|                                     |       | Daily Maximum    | 7                             | 0                         | <1.4                    | <1.4                   |

| Parameter              | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|------------------------|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| 2-Chlorophenol         | µg/L  | Monthly Average  | 7                             | 0                         | <0.97                          | <0.97                          |
|                        |       | Daily Maximum    | 7                             | 0                         | <0.97                          | <0.97                          |
| 2-Nitrophenol          | µg/L  | Monthly Average  | 7                             | 0                         | <1.9                           | <1.9                           |
|                        |       | Daily Maximum    | 7                             | 0                         | <1.9                           | <1.9                           |
| 3,3'-Dichlorobenzidine | µg/L  | Monthly Average  | 7                             | 0                         | <32                            | <32                            |
|                        |       | Daily Maximum    | 7                             | 0                         | <32                            | <32                            |
| 4,4'-DDD(p,p'-DDD)     | µg/L  | Monthly Average  | 23                            | 2                         | 0.004                          | 0.004                          |
|                        |       | Daily Maximum    | 23                            | 2                         | 0.004                          | 0.004                          |
| 4,4'-DDE(p,p'-DDE)     | µg/L  | Monthly Average  | 7                             | 0                         | <0.002                         | <0.002                         |
|                        |       | Daily Maximum    | 7                             | 0                         | <0.002                         | <0.002                         |
| 4,4'-DDT(p,p'-DDT)     | µg/L  | Monthly Average  | 21                            | 0                         | <0.051                         | <0.051                         |
|                        |       | Daily Maximum    | 21                            | 0                         | <0.051                         | <0.051                         |
| 4,6-Dinitro-o-cresol   | µg/L  | Monthly Average  | 7                             | 0                         | <7.1                           | <7.1                           |
|                        |       | Daily Maximum    | 7                             | 0                         | <7.1                           | <7.1                           |
| 4-Nitrophenol          | µg/L  | Monthly Average  | 7                             | 0                         | <11                            | <11                            |
|                        |       | Daily Maximum    | 7                             | 0                         | <11                            | <11                            |
| Acenaphthene           | µg/L  | Monthly Average  | 1                             | 2                         | 0.185                          | 0.19                           |
|                        |       | Daily Maximum    | 1                             | 2                         | 0.185                          | 0.19                           |
| Acenaphthylene         | µg/L  | Monthly Average  | 48                            | 0                         | <4.3                           | <4.3                           |
|                        |       | Daily Maximum    | 48                            | 0                         | <4.3                           | <4.3                           |
| Acetone                | µg/L  | Monthly Average  | 7                             | 1                         | 11.8                           | 11.8                           |
|                        |       | Daily Maximum    | 7                             | 1                         | 11.8                           | 11.8                           |
| Acrolein               | µg/L  | Monthly Average  | 7                             | 0                         | <15                            | <15                            |
|                        |       | Daily Maximum    | 7                             | 0                         | <15                            | <15                            |
| Acrylonitrile          | µg/L  | Monthly Average  | 7                             | 0                         | <5.5                           | <5.5                           |
|                        |       | Daily Maximum    | 7                             | 0                         | <5.5                           | <5.5                           |
| Aldrin                 | µg/L  | Monthly Average  | 7                             | 0                         | <0.003                         | <0.003                         |
|                        |       | Daily Maximum    | 7                             | 0                         | <0.003                         | <0.003                         |
| Alpha BHC              | µg/L  | Monthly Average  | 20                            | 2                         | 0.013                          | 0.013                          |
|                        |       | Daily Maximum    | 20                            | 2                         | 0.013                          | 0.013                          |
| Alpha Endosulfan       | µg/L  | Monthly Average  | 7                             | 0                         | <0.023                         | <0.023                         |
|                        |       | Daily Maximum    | 7                             | 0                         | <0.023                         | <0.023                         |
| Aluminum, (Total & TR) | µg/L  | Monthly Average  | 56                            | 11                        | 387.57                         | 1195                           |
|                        |       | Daily Maximum    | 56                            | 11                        | 415.3                          | 1500                           |
| Anthracene             | µg/L  | Monthly Average  | 26                            | 0                         | <1.3                           | <1.3                           |
|                        |       | Daily Maximum    | 26                            | 0                         | <1.3                           | <1.3                           |
| Antimony (TR)          | µg/L  | Monthly Average  | 40                            | 19                        | 21.64                          | 72                             |
|                        |       | Daily Maximum    | 40                            | 19                        | 22.37                          | 72                             |
| Arsenic (Total & TR)   | µg/L  | Monthly Average  | 86                            | 181                       | 5.64                           | 30                             |
|                        |       | Daily Maximum    | 83                            | 184                       | 5.69                           | 30                             |
| Barium, (Total & TR)   | µg/L  | Monthly Average  | 4                             | 28                        | 111.88                         | 602                            |
|                        |       | Daily Maximum    | 4                             | 28                        | 112.02                         | 602                            |

| Parameter                        | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|----------------------------------|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| Benzene                          | µg/L  | Monthly Average  | 235                           | 41                        | 0.98                           | 1.1                            |
|                                  |       | Daily Maximum    | 235                           | 41                        | 0.98                           | 1.1                            |
| Benzidine                        | µg/L  | Monthly Average  | 7                             | 0                         | <45                            | <45                            |
|                                  |       | Daily Maximum    | 7                             | 0                         | <45                            | <45                            |
| Benzo(a)anthracene               | µg/L  | Monthly Average  | 26                            | 0                         | <1                             | <1                             |
|                                  |       | Daily Maximum    | 26                            | 0                         | <1                             | <1                             |
| Benzo(a)pyrene                   | µg/L  | Monthly Average  | 14                            | 0                         | <0.8                           | <0.8                           |
|                                  |       | Daily Maximum    | 14                            | 0                         | <0.8                           | <0.8                           |
| Benzo(b)fluoranthene (3,4-benzo) | µg/L  | Monthly Average  | 14                            | 0                         | <2.7                           | <2.7                           |
|                                  |       | Daily Maximum    | 14                            | 0                         | <2.7                           | <2.7                           |
| Benzo(k)fluoranthene             | µg/L  | Monthly Average  | 14                            | 0                         | <0.97                          | <0.97                          |
|                                  |       | Daily Maximum    | 14                            | 0                         | <0.97                          | <0.97                          |
| Beryllium, (TR)                  | µg/L  | Monthly Average  | 24                            | 1                         | 1.5                            | 1.5                            |
|                                  |       | Daily Maximum    | 24                            | 1                         | 1.5                            | 1.5                            |
| Beta BHC                         | µg/L  | Monthly Average  | 7                             | 0                         | <0.013                         | <0.013                         |
|                                  |       | Daily Maximum    | 7                             | 0                         | <0.013                         | <0.013                         |
| Beta Endosulfan                  | µg/L  | Monthly Average  | 7                             | 0                         | <0.023                         | <0.023                         |
|                                  |       | Daily Maximum    | 7                             | 0                         | <0.023                         | <0.023                         |
| Bis(2-chloroethyl) ether         | µg/L  | Monthly Average  | 7                             | 0                         | <1.2                           | <1.2                           |
|                                  |       | Daily Maximum    | 7                             | 0                         | <1.2                           | <1.2                           |
| Bis(2-chloroisopropyl) ether     | µg/L  | Monthly Average  | 7                             | 0                         | <0.92                          | <0.92                          |
|                                  |       | Daily Maximum    | 7                             | 0                         | <0.92                          | <0.92                          |
| Bis(2-ethylhexyl)phthalate       | µg/L  | Monthly Average  | 66                            | 1                         | 1                              | 1                              |
|                                  |       | Daily Maximum    | 66                            | 1                         | 1                              | 1                              |
| Bromodichloromethane             | µg/L  | Monthly Average  | 2                             | 0                         | <1                             | <1                             |
|                                  |       | Daily Maximum    | 2                             | 0                         | <1                             | <1                             |
| Bromoform                        | µg/L  | Monthly Average  | 43                            | 0                         | <0.59                          | <0.59                          |
|                                  |       | Daily Maximum    | 43                            | 0                         | <0.59                          | <0.59                          |
| Butyl benzyl phthalate           | µg/L  | Monthly Average  | 7                             | 0                         | <1.3                           | <1.3                           |
|                                  |       | Daily Maximum    | 7                             | 0                         | <1.3                           | <1.3                           |
| Cadmium, (Total & TR)            | µg/L  | Monthly Average  | 45                            | 3                         | 0.32                           | 0.37                           |
|                                  |       | Daily Maximum    | 45                            | 3                         | 0.32                           | 0.37                           |
| Carbon Tetrachloride             | µg/L  | Monthly Average  | 256                           | 90                        | 1.54                           | 13.7                           |
|                                  |       | Daily Maximum    | 256                           | 90                        | 1.77                           | 19                             |
| Chlordane                        | µg/L  | Monthly Average  | 7                             | 25                        | 0.004                          | 0.05                           |
|                                  |       | Daily Maximum    | 7                             | 25                        | 0.004                          | 0.05                           |
| Chloride (as Cl)                 | µg/L  | Monthly Average  | 0                             | 6                         | 26648                          | 159000                         |
|                                  |       | Daily Maximum    | 0                             | 6                         | 26648                          | 159000                         |
| Chlorobenzene                    | µg/L  | Monthly Average  | 132                           | 41                        | 2.97                           | 60                             |
|                                  |       | Daily Maximum    | 132                           | 41                        | 4.63                           | 120                            |
| Chlorodibromomethane             | µg/L  | Monthly Average  | 44                            | 0                         | <0.39                          | <0.39                          |
|                                  |       | Daily Maximum    | 44                            | 0                         | <0.39                          | <0.39                          |

| Parameter                              | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|--|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| Chloroethane                           | µg/L  | Monthly Average  | 7                             | 0                         | <4.6                           | <4.6                           |
|  |       | Daily Maximum    | 7                             | 0                         | <4.6                           | <4.6                           |
| Chloroform                             | µg/L  | Monthly Average  | 180                           | 99                        | 1.14                           | 4.6                            |
|  |       | Daily Maximum    | 180                           | 99                        | 1.14                           | 4.6                            |
| Chromium, (Total & TR)                 | µg/L  | Monthly Average  | 148                           | 93                        | 10.49                          | 366                            |
|  |       | Daily Maximum    | 148                           | 93                        | 15.34                          | 590                            |
| Chromium, Hexavalent Dissolved (as Cr) | µg/L  | Monthly Average  | 28                            | 1                         | 8.3                            | 8.3                            |
|  |       | Daily Maximum    | 28                            | 1                         | 8.3                            | 8.3                            |
| Chrysene                               | µg/L  | Monthly Average  | 26                            | 0                         | <0.91                          | <0.91                          |
|  |       | Daily Maximum    | 26                            | 0                         | <0.91                          | <0.91                          |
| Cis-1,2-Dichloroethylene               | µg/L  | Monthly Average  | 74                            | 9                         | 0.52                           | 0.97                           |
|  |       | Daily Maximum    | 74                            | 9                         | 0.52                           | 0.97                           |
| Copper, (Total & TR)                   | µg/L  | Monthly Average  | 154                           | 110                       | 5.88                           | 71.8                           |
|  |       | Daily Maximum    | 154                           | 110                       | 6.47                           | 71.8                           |
| Cyanide, Total (as CN)                 | µg/L  | Monthly Average  | 9                             | 3                         | 3                              | 4.5                            |
|  |       | Daily Maximum    | 9                             | 3                         | 3                              | 4.5                            |
| Dibenzo(a,h)anthracene                 | µg/L  | Monthly Average  | 7                             | 0                         | <0.82                          | <0.82                          |
|  |       | Daily Maximum    | 7                             | 0                         | <0.82                          | <0.82                          |
| Dichlorobromomethane                   | µg/L  | Monthly Average  | 7                             | 0                         | <0.34                          | <0.34                          |
|  |       | Daily Maximum    | 7                             | 0                         | <0.34                          | <0.34                          |
| Dieldrin                               | µg/L  | Monthly Average  | 8                             | 0                         | <0.008                         | <0.008                         |
|  |       | Daily Maximum    | 8                             | 0                         | <0.008                         | <0.008                         |
| Diethyl phthalate                      | µg/L  | Monthly Average  | 14                            | 0                         | <0.98                          | <0.98                          |
|  |       | Daily Maximum    | 14                            | 0                         | <0.98                          | <0.98                          |
| Dimethyl phthalate                     | µg/L  | Monthly Average  | 13                            | 0                         | <1.6                           | <1.6                           |
|  |       | Daily Maximum    | 13                            | 0                         | <1.6                           | <1.6                           |
| Di-n-butyl phthalate                   | µg/L  | Monthly Average  | 13                            | 0                         | <0.95                          | <0.95                          |
|  |       | Daily Maximum    | 13                            | 0                         | <0.95                          | <0.95                          |
| Endosulfan Sulfate                     | µg/L  | Monthly Average  | 20                            | 2                         | 0.006                          | 0.006                          |
|  |       | Daily Maximum    | 20                            | 2                         | 0.006                          | 0.006                          |
| Endrin                                 | µg/L  | Monthly Average  | 7                             | 0                         | <0.025                         | <0.025                         |
|  |       | Daily Maximum    | 7                             | 0                         | <0.025                         | <0.025                         |
| Endrin Aldehyde                        | µg/L  | Monthly Average  | 7                             | 0                         | <0.003                         | <0.003                         |
|  |       | Daily Maximum    | 7                             | 0                         | <0.003                         | <0.003                         |
| Ethylbenzene                           | µg/L  | Monthly Average  | 142                           | 0                         | <1                             | <1                             |
|  |       | Daily Maximum    | 142                           | 0                         | <1                             | <1                             |
| Fluoranthene                           | µg/L  | Monthly Average  | 26                            | 0                         | <0.84                          | <0.84                          |
|  |       | Daily Maximum    | 26                            | 0                         | <0.84                          | <0.84                          |
| Fluorene                               | µg/L  | Monthly Average  | 20                            | 2                         | 0.165                          | 0.17                           |
|  |       | Daily Maximum    | 20                            | 2                         | 0.165                          | 0.17                           |
| Gamma BHC (lindane)                    | µg/L  | Monthly Average  | 19                            | 0                         | <0.026                         | <0.026                         |
|  |       | Daily Maximum    | 19                            | 0                         | <0.026                         | <0.026                         |

| Parameter                              | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|--|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| Gross Alpha Radiation                  | PCI/L | Monthly Average  | 4                             | 4                         | 12.26                          | 31.29                          |
|  |       | Daily Maximum    | 4                             | 4                         | 22.86                          | 72.8                           |
| Heptachlor                             | µg/L  | Monthly Average  | 19                            | 2                         | 0.008                          | 0.008                          |
|  |       | Daily Maximum    | 19                            | 2                         | 0.008                          | 0.008                          |
| Heptachlor Epoxide                     | µg/L  | Monthly Average  | 19                            | 0                         | <0.0053                        | <0.0053                        |
|  |       | Daily Maximum    | 19                            | 0                         | <0.0053                        | <0.0053                        |
| Hexachlorobenzene                      | µg/L  | Monthly Average  | 7                             | 0                         | <0.91                          | <0.91                          |
|  |       | Daily Maximum    | 7                             | 0                         | <0.91                          | <0.91                          |
| Hexachlorobutadiene                    | µg/L  | Monthly Average  | 7                             | 0                         | <0.67                          | <0.67                          |
|  |       | Daily Maximum    | 7                             | 0                         | <0.67                          | <0.67                          |
| Hexachlorocyclopentadiene              | µg/L  | Monthly Average  | 7                             | 0                         | <11                            | <11                            |
|  |       | Daily Maximum    | 7                             | 0                         | <11                            | <11                            |
| Hexachloroethane                       | µg/L  | Monthly Average  | 7                             | 0                         | <1.2                           | <1.2                           |
|  |       | Daily Maximum    | 7                             | 0                         | <1.2                           | <1.2                           |
| Hexafluoropropylene oxide dimer acid   | ng/L  | Monthly Average  | 10                            | 0                         | <6.64                          | <6.64                          |
|  |       | Daily Maximum    | 10                            | 0                         | <6.64                          | <6.64                          |
| Indeno(1,2,3-cd)pyrene                 | µg/L  | Monthly Average  | 14                            | 0                         | <1.3                           | <1.3                           |
|  |       | Daily Maximum    | 14                            | 0                         | <1.3                           | <1.3                           |
| Iron, (Total & TR)                     | µg/L  | Monthly Average  | 158                           | 268                       | 3145                           | 32000                          |
|  |       | Daily Maximum    | 154                           | 272                       | 3205                           | 32000                          |
| Isophorone                             | µg/L  | Monthly Average  | 13                            | 0                         | <1.9                           | <1.9                           |
|  |       | Daily Maximum    | 13                            | 0                         | <1.9                           | <1.9                           |
| Lead, (Total & TR)                     | µg/L  | Monthly Average  | 170                           | 63                        | 6.45                           | 195                            |
|  |       | Daily Maximum    | 167                           | 66                        | 6.99                           | 195                            |
| Manganese, (TR)                        | µg/L  | Monthly Average  | 49                            | 50                        | 111.25                         | 650                            |
|  |       | Daily Maximum    | 48                            | 51                        | 118.66                         | 850                            |
| Magnesium, (Total)                     | µg/L  | Monthly Average  | 2                             | 34                        | 22695                          | 395000                         |
|  |       | Daily Maximum    | 2                             | 34                        | 22814                          | 395000                         |
| Mercury, (Total & TR)                  | µg/L  | Monthly Average  | 63                            | 13                        | 0.111                          | 0.2                            |
|  |       | Daily Maximum    | 62                            | 14                        | 0.125                          | 0.23                           |
| Methyl Bromide                         | µg/L  | Monthly Average  | 41                            | 2                         | 1.95                           | 2.2                            |
|  |       | Daily Maximum    | 41                            | 2                         | 1.95                           | 2.2                            |
| Methyl Chloride                        | µg/L  | Monthly Average  | 13                            | 0                         | <0.54                          | <0.54                          |
|  |       | Daily Maximum    | 13                            | 0                         | <0.54                          | <0.54                          |
| Methyl ethyl ketone (MEK) (2-Butanone) | µg/L  | Monthly Average  | 10                            | 0                         | <1.9                           | <1.9                           |
|  |       | Daily Maximum    | 10                            | 0                         | <1.9                           | <1.9                           |
| Methyl Isobutyl Ketone (MIBK)          | µg/L  | Monthly Average  | 9                             | 0                         | <0.879                         | <0.879                         |
|  |       | Daily Maximum    | 9                             | 0                         | <0.879                         | <0.879                         |
| Methyl tert-butyl Ether                | µg/L  | Monthly Average  | 6                             | 0                         | <0.22                          | <0.22                          |
|  |       | Daily Maximum    | 6                             | 0                         | <0.22                          | <0.22                          |
| Methylene Chloride                     | µg/L  | Monthly Average  | 123                           | 64                        | 1.36                           | 6.6                            |
|  |       | Daily Maximum    | 123                           | 64                        | 1.36                           | 6.6                            |

| Parameter                            | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|--------------------------------------|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| Naphthalene                          | µg/L  | Monthly Average  | 110                           | 1                         | 3.1                            | 3.1                            |
|                                      |       | Daily Maximum    | 110                           | 1                         | 3.1                            | 3.1                            |
| Nickel, (Total & TR)                 | µg/L  | Monthly Average  | 119                           | 182                       | 12.3                           | 273                            |
|                                      |       | Daily Maximum    | 118                           | 183                       | 13.14                          | 273                            |
| Nitrobenzene                         | µg/L  | Monthly Average  | 7                             | 0                         | <1.6                           | <1.6                           |
|                                      |       | Daily Maximum    | 7                             | 0                         | <1.6                           | <1.6                           |
| N-nitrosodimethylamine               | µg/L  | Monthly Average  | 7                             | 0                         | <11                            | <11                            |
|                                      |       | Daily Maximum    | 7                             | 0                         | <11                            | <11                            |
| N-nitrosodiphenylamine               | µg/L  | Monthly Average  | 43                            | 0                         | <2.4                           | <2.4                           |
|                                      |       | Daily Maximum    | 43                            | 0                         | <2.4                           | <2.4                           |
| PCB-1016 (Arochlor 1016)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| PCB-1221 (Arochlor 1221)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| PCB-1232 (Arochlor 1232)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| PCB-1242 (Arochlor 1242)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| PCB-1248 (Arochlor 1248)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| PCB-1254 (Arochlor 1254)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| PCB-1260 (Arochlor 1260)             | µg/L  | Monthly Average  | 8                             | 0                         | <0.25                          | <0.25                          |
|                                      |       | Daily Maximum    | 8                             | 0                         | <0.25                          | <0.25                          |
| Pentachlorophenol                    | µg/L  | Monthly Average  | 7                             | 0                         | <7.1                           | <7.1                           |
|                                      |       | Daily Maximum    | 7                             | 0                         | <7.1                           | <7.1                           |
| Perfluorobutanesulfonic Acid (PFBS)  | ng/L  | Monthly Average  | 10                            | 0                         | <1.58                          | <1.58                          |
|                                      |       | Daily Maximum    | 10                            | 0                         | <1.58                          | <1.58                          |
| Perfluorobutanoic Acid (PFBA)        | ng/L  | Monthly Average  | 5                             | 5                         | 3.12                           | 5.86                           |
|                                      |       | Daily Maximum    | 5                             | 5                         | 3.12                           | 5.86                           |
| Perfluorodecanoic Acid (PFDA)        | ng/L  | Monthly Average  | 10                            | 0                         | <1.66                          | <1.66                          |
|                                      |       | Daily Maximum    | 10                            | 0                         | <1.66                          | <1.66                          |
| Perfluorododecanoic Acid (PFDoA)     | ng/L  | Monthly Average  | 10                            | 0                         | <1.66                          | <1.66                          |
|                                      |       | Daily Maximum    | 10                            | 0                         | <1.66                          | <1.66                          |
| Perfluoroheptanoic Acid (PFHpA)      | ng/L  | Monthly Average  | 12                            | 0                         | <1.96                          | <1.96                          |
|                                      |       | Daily Maximum    | 12                            | 0                         | <1.96                          | <1.96                          |
| Perfluorohexanesulfonic Acid (PFHxS) | ng/L  | Monthly Average  | 10                            | 0                         | <1.58                          | <1.58                          |
|                                      |       | Daily Maximum    | 10                            | 0                         | <1.58                          | <1.58                          |
| Perfluorohexanoic Acid (PFHxA)       | ng/L  | Monthly Average  | 12                            | 0                         | <1.96                          | <1.96                          |
|                                      |       | Daily Maximum    | 12                            | 0                         | <1.96                          | <1.96                          |
| Perfluorononanoic Acid (PFNA)        | ng/L  | Monthly Average  | 14                            | 36                        | 2.73                           | 12.1                           |
|                                      |       | Daily Maximum    | 14                            | 36                        | 2.73                           | 12.1                           |

| Parameter                               | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|---|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| Perfluorooctanesulfonic Acid (PFOS)     | ng/L  | Monthly Average  | 12                            | 38                        | 7.77                           | 14.3                           |
|   |       | Daily Maximum    | 12                            | 38                        | 7.77                           | 14.3                           |
| Perfluorooctanoic Acid (PFOA)           | ng/L  | Monthly Average  | 14                            | 36                        | 11.53                          | 17.3                           |
|   |       | Daily Maximum    | 14                            | 36                        | 11.53                          | 17.3                           |
| Perfluoropentanoic Acid (PFPeA)         | ng/L  | Monthly Average  | 10                            | 0                         | <3.32                          | <3.32                          |
|   |       | Daily Maximum    | 10                            | 0                         | <3.32                          | <3.32                          |
| Perfluorotetradecanoic Acid (PFTeA)     | ng/L  | Monthly Average  | 10                            | 0                         | <1.58                          | <1.58                          |
|   |       | Daily Maximum    | 10                            | 0                         | <1.58                          | <1.58                          |
| Perfluorotridecanoic Acid (PFTriA)      | ng/L  | Monthly Average  | 10                            | 0                         | <1.66                          | <1.66                          |
|   |       | Daily Maximum    | 10                            | 0                         | <1.66                          | <1.66                          |
| Perfluoroundecanoic Acid (PFUnA)        | ng/L  | Monthly Average  | 10                            | 0                         | <1.66                          | <1.66                          |
|   |       | Daily Maximum    | 10                            | 0                         | <1.66                          | <1.66                          |
| Phenanthrene                            | µg/L  | Monthly Average  | 23                            | 4                         | 0.2                            | 0.24                           |
|   |       | Daily Maximum    | 23                            | 4                         | 0.2                            | 0.24                           |
| Phenol, Single Compound                 | µg/L  | Monthly Average  | 84                            | 3                         | 9.5                            | 14                             |
|   |       | Daily Maximum    | 84                            | 3                         | 13.59                          | 26                             |
| Phenols                                 | µg/L  | Monthly Average  | 51                            | 3                         | 50.33                          | 73                             |
|   |       | Daily Maximum    | 51                            | 3                         | 50.33                          | 73                             |
| Polychlorinated Biphenyls (PCBs)        | µg/L  | Monthly Average  | 1                             | 0                         | <0.25                          | <0.25                          |
|   |       | Daily Maximum    | 1                             | 0                         | <0.25                          | <0.25                          |
| Pyrene                                  | µg/L  | Monthly Average  | 24                            | 1                         | 0.25                           | 0.25                           |
|   |       | Daily Maximum    | 24                            | 1                         | 0.25                           | 0.25                           |
| Radiation - Gross Alpha                 | pCi/L | Monthly Average  | --                            | --                        | --                             | --                             |
|   |       | Daily Maximum    | 32                            | 14                        | 2.56                           | 10.3                           |
| Radiation - Gross Alpha Total Dissolved | pCi/L | Monthly Average  | --                            | --                        | --                             | --                             |
|   |       | Daily Maximum    | 37                            | 7                         | 1.96                           | 2.72                           |
| Radiation - Gross Alpha Total Suspended | pCi/L | Monthly Average  | --                            | --                        | --                             | --                             |
|   |       | Daily Maximum    | 41                            | 3                         | 8.9                            | 14                             |
| Radiation - Gross Beta                  | pCi/L | Monthly Average  | --                            | --                        | --                             | --                             |
|   |       | Daily Maximum    | 35                            | 16                        | 13.74                          | 46.7                           |
| Radium 226 + Radium 228                 | pCi/L | Monthly Average  | --                            | --                        | --                             | --                             |
|   |       | Daily Maximum    | 15                            | 39                        | 1.33                           | 3.24                           |
| Selenium, (TR)                          | µg/L  | Monthly Average  | 5                             | 6                         | 39.99                          | 77.1                           |
|   |       | Daily Maximum    | 5                             | 6                         | 45.96                          | 106                            |
| Silver, (Total & TR)                    | µg/L  | Monthly Average  | 53                            | 1                         | 0.9                            | 0.9                            |
|   |       | Daily Maximum    | 53                            | 1                         | 1.3                            | 1.3                            |
| Tertiary Butyl Alcohol (TBA)            | µg/L  | Monthly Average  | 16                            | 28                        | 24.57                          | 100                            |
|   |       | Daily Maximum    | 16                            | 28                        | 24.57                          | 100                            |
| Tetrachloroethylene                     | µg/L  | Monthly Average  | 419                           | 185                       | 1.58                           | 8.6                            |
|   |       | Daily Maximum    | 419                           | 185                       | 1.72                           | 30.5                           |
| Toluene                                 | µg/L  | Monthly Average  | 140                           | 3                         | 5.1                            | 6.4                            |
|   |       | Daily Maximum    | 140                           | 3                         | 5.1                            | 6.4                            |

| Parameter                  | Units | Averaging Period | Number of Non-Detected Values | Number of Detected Values | Average of the Detected Values | Maximum of the Detected Values |
|----------------------------|-------|------------------|-------------------------------|---------------------------|--------------------------------|--------------------------------|
| Toxaphene                  | µg/L  | Monthly Average  | 49                            | 0                         | <0.5                           | <0.5                           |
|                            |       | Daily Maximum    | 49                            | 0                         | <0.5                           | <0.5                           |
| trans-1,2-Dichloroethylene | µg/L  | Monthly Average  | 162                           | 0                         | <5                             | <5                             |
|                            |       | Daily Maximum    | 162                           | 0                         | <5                             | <5                             |
| Trichloroethene            | µg/L  | Monthly Average  | 196                           | 51                        | 1.11                           | 5.3                            |
|                            |       | Daily Maximum    | 196                           | 51                        | 1.2                            | 10                             |
| Trichloroethylene          | µg/L  | Monthly Average  | 327                           | 113                       | 1.08                           | 4.3                            |
|                            |       | Daily Maximum    | 327                           | 113                       | 1.22                           | 19.4                           |
| Trichlorofluoromethane     | µg/L  | Monthly Average  | 6                             | 0                         | <0.32                          | <0.32                          |
|                            |       | Daily Maximum    | 6                             | 0                         | <0.32                          | <0.32                          |
| Uranium, Total             | µg/L  | Monthly Average  | 8                             | 2                         | 0.91                           | 1.46                           |
|                            |       | Daily Maximum    | 15                            | 39                        | 0.25                           | 1.46                           |
| Vanadium, Total (as V)     | µg/L  | Monthly Average  | 26                            | 3                         | 7.37                           | 8.4                            |
|                            |       | Daily Maximum    | 26                            | 3                         | 7.37                           | 8.4                            |
| Vinyl Chloride             | µg/L  | Monthly Average  | 209                           | 36                        | 1                              | 1                              |
|                            |       | Daily Maximum    | 209                           | 36                        | 1                              | 1                              |
| Xylenes (Total)            | µg/L  | Monthly Average  | 16                            | 0                         | <0.65                          | <0.65                          |
|                            |       | Daily Maximum    | 16                            | 0                         | <0.65                          | <0.65                          |
| Zinc, (Total & TR)         | µg/L  | Monthly Average  | 163                           | 304                       | 32.33                          | 1010                           |
|                            |       | Daily Maximum    | 162                           | 305                       | 36.38                          | 1010                           |

**Footnotes and Abbreviations:**

Dashes (--) indicate there is no effluent data, no limitations or no monitoring for this parameter depending on the column in which it appears.

mg/L - Milligrams per liter  
ng/L - Nanograms per liter  
µg/L - Micrograms per liter  
pCi/L - Picocuries per liter



The following items are used to establish the basis of the Draft Permit:

Rules and Regulations:

1. 33 U.S.C. 1251 et seq., Federal Water Pollution Control Act. [B]
2. 40 CFR Part 131, Federal Water Quality Standards. [B]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [B]
4. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A]
5. N.J.A.C. 7:14A-1 et seq., NJPDES Regulations. [A]
6. N.J.A.C. 7:9B-1 et seq., New Jersey SWQS. [A]
7. N.J.A.C. 7:15, Statewide Water Quality Management Planning Rules. [A]
8. N.J.A.C. 7:14C, Sludge Quality Assurance Regulations. [A]
9. DRBC: Administrative Manual – Part III Water Quality Regulations.

Guidance Documents / Reports:

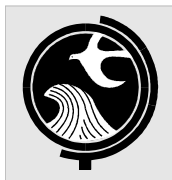
1. "Field Sampling Procedures Manual", published by the Department. [A]
2. "NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at [https://dep.nj.gov/wp-content/uploads/dwq/mrf\\_manual.pdf](https://dep.nj.gov/wp-content/uploads/dwq/mrf_manual.pdf). [A]
3. "USEPA TSD for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [B]
4. New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A]
5. Monitoring Report Forms (MRFs): Discharge Monitoring Reports (DMRs) dated January 1, 2022 through December 31, 2024.

Permits / Applications:

1. Existing NJPDES/DSW Permit NJ0155438, issued July 28, 2020 and effective August 1, 2020.

Footnotes:

- [A] Denotes items that may be found on the Department's website located at "http://www.state.nj.us/dep/".
- [B] Denotes items that may be found on the USEPA website at "http://www.epa.gov/".



# 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: NJ0155438**

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

**Permittee:**

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

**Co-Permittee:**

**Property Owner:**

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

**Location Of Activity:**

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

| Authorization Covered Under This Approval            | Issuance Date  | Effective Date | Expiration Date |
|--|----------------|----------------|-----------------|
| BGR - General Remediation Clean-up (GP) –<br>Renewal | <i>Pending</i> | <i>Pending</i> | <i>Pending</i>  |

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

**DEP AUTHORIZATION**

**Brett Callanan, Chief**

**Bureau of Surface Water and Pretreatment Permitting**

(Terms, conditions and provisions attached hereto)

## 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 et seq.
  - 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
    - Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)
    - Written Reporting N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
  - Duty to Provide Information N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
  - Schedules of Compliance N.J.A.C. 7:14A-6.4
  - Transfer N.J.A.C. 7:14A-6.2(a)8 & 16.2

## **PART II**

### **GENERAL REQUIREMENTS: DISCHARGE CATEGORIES**

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

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

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

#### **B. General Conditions**

##### **1. Scope**

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

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

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application at least 180 days prior to the expiration of the permit.

##### **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 Facility Changes**

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

**5. Notification of Facility Changes**

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

**6. Notification of Change in Ownership and/or Permittee/Operating Entity**

- a. As set forth at N.J.A.C. 7:14A-16.2, prior to any change in ownership and/or the permittee/operating entity, the current permittee shall provide written notice to the Department at least thirty (30) days prior to the proposed transfer date.
  - i. Written notice to the Department shall be in the form of a completed Application for transfer of a NJPDES Permit form, which is available on the Department's website or by contacting the appropriate permitting program.

**7. Notification of Changes to the Facility/Permit Contacts**

- a. The permittee shall notify the Department within thirty (30) days of a change in contact information for any of the following persons associated with the facility/permit:
  - i. Permittee/Operating Entity Contact;
  - ii. Property Owner Contact;
  - iii. Facility Contact; or
  - iv. Fee/Billing Contact
- c. Notification to the Department shall be in the form of a completed Contact Information Update form (i.e., NJPDES-2 form), which is available on the Department's website or by contacting the appropriate permitting program.

**8. 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.

**9. Operator Certification**

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.
  - i. Notifications shall be submitted to:

NJDEP  
Bureau of Water System Engineering  
Mail Code 401-04Q  
PO Box 420  
Trenton, New Jersey 08625 - 0420  
(609) 292-2957  
or via email to [www@dep.nj.gov](mailto:www@dep.nj.gov)

- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

## **10. 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.

## **11. Residuals Management**

- a. The permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under N.J.A.C. 7:14A-6.15(a), which includes:
- i. Standards for the Use or Disposal of Residual, N.J.A.C. 7:14A-20;
  - ii. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;
  - iii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;
  - iv. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14C;
  - v. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and
  - vi. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan.
  - vii. Residual that is disposed in a municipal solid waste landfill unit shall meet the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)
- b. If any applicable standard for residual use or disposal is promulgated under section 405(d) of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal.

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

## **12. Standard Reporting Requirements – Monitoring Report Forms (MRFs)**

- a. All required monitoring results reported on Monitoring Report Forms (MRFs) shall be electronically submitted to the Department via NJDEP's Electronic Monitoring Report Form (MRF) Submission Service.
- b. MRF data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee.
- c. MRFs shall be submitted at the frequencies identified in Part III of this permit.
- d. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- e. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to certify shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

- f. Monitoring results shall be submitted in accordance with the current NJPDES Monitoring Report Form Reference Manual and any updates thereof.
- g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.
- h. If, for a monitored location, there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results by checking the "No Discharge this monitoring period" box on the monitoring report submittal form.

### **13. Standard Reporting Requirements - Electronic Submission of NJPDES Information**

- a. The below identified documents and reports, if required to be submitted by this permit, shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.
  - i. General permit authorization requests (i.e. RFAs)
  - ii. General permit termination/revocation requests



## PART III

# LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:

ABGR Table 1

RECEIVING STREAM:

Varies

STREAM CLASSIFICATION:DISCHARGE CATEGORY(IES):BGR - General Remediation Clean-up  
(GP)**Location Description**

This table is utilized for long term discharges into eligible waters classified as FW2-NT, FW2-TM, FW2-TP, SE or SC. Metals, volatile organics, acid extractables, base-neutrals, PCBs, pesticides and other pollutants (Priority Pollutant Scan) will be included for any parameter detected or known present. Limits for these parameters are specified in the BGR Effluent Standards for Toxic Pollutants attachment. Refer to Part III of the individual authorizations for site specific limitations and monitoring requirements.

**Contributing Waste Types**

Groundwater Remediation

**Surface Water DMR Reporting Requirements:**

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

**Comments:**

For new, long term authorizations: A chronic whole effluent toxicity limit shall become effective three years from the effective start date of the permit.

Specific toxics will be included for parameters that are detected in the untreated representative sample or known suspected in place of the "Priority Pollutant Scan"

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

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

**Surface Water DMR Reporting Requirements:**

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

**Comments:**

For new, long term authorizations: A chronic whole effluent toxicity limit shall become effective three years from the effective start date of the permit.

Specific toxics will be included for parameters that are detected in the untreated representative sample or known suspected in place of the "Priority Pollutant Scan"

**Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements****PHASE:**Final**PHASE Start Date:****PHASE End Date:**

| Parameter                 | Sample Point         | Limit | Limit | Units | Limit | Limit                  | Limit                | Units | Frequency | Sample Type |
|---------------------------|----------------------|-------|-------|-------|-------|------------------------|----------------------|-------|-----------|-------------|
| Carbon, Tot Organic (TOC) | Effluent Gross Value | ***** | ***** | ***** | ***** | REPORT Monthly Average | 20 Daily Maximum     | MG/L  | 1/Month   | Grab        |
| January thru December     | QL                   | ***   | ***   |       | ***   | ***                    | ***                  |       |           |             |
| Priority Pollutant Scan   | Effluent Gross Value | ***** | ***** | ***** | ***** | REPORT Monthly Average | REPORT Daily Maximum | UG/L  | 1/Month   | Grab        |
| January thru December     | QL                   | ***   | ***   |       | ***   | ***                    | ***                  |       |           |             |

MONITORED LOCATION:

BBGR Table 2

RECEIVING STREAM:

Varies

STREAM CLASSIFICATION:DISCHARGE CATEGORY(IES):BGR - General Remediation Clean-up  
(GP)**Location Description**

This table is utilized on a case-by-case basis for short term discharges into eligible waters classified as FW2-NT, FW2-TM, FW2-TP, SE or SC. Metals, volatile organics, acid extractables, base-neutrals, PCBs, pesticides and other pollutants (Priority Pollutant Scan) will be included for any parameter detected or known present. Limits for these parameters are specified in the BGR Effluent Standards for Toxic Pollutants attachment. Refer to Part III of the individual authorizations for site specific limitations and monitoring requirements.

**Contributing Waste Types**

Groundwater Remediation

**Surface Water DMR Reporting Requirements:**

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

**Comments:**

For short term discharges: A monitoring frequency of 1/4 days shall apply for discharges lasting for 1 month or less; 1/week for discharges lasting from 1 month to 3 months; and 1/2 weeks for discharges lasting greater than 3 months. Specific toxics will be included in place of the "Priority Pollutant Scan" on a case-by-case basis. No chronic WET.

**Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

| Parameter                                | Sample Point         | Limit                  | Limit                | Units | Limit                  | Limit                  | Limit                  | Units | Frequency | Sample Type |
|--|----------------------|------------------------|----------------------|-------|------------------------|------------------------|------------------------|-------|-----------|-------------|
| Flow, In Conduit or Thru Treatment Plant | Effluent Gross Value | REPORT Monthly Average | REPORT Daily Maximum | GPD   | *****                  | *****                  | *****                  | ***** | 1/4 Days  | Metered     |
| January thru December                    | QL                   | ***                    | ***                  |       | ***                    | ***                    | ***                    |       |           |             |
| pH                                       | Effluent Gross Value | *****                  | *****                | ***** | 6.0 Report Per Minimum | *****                  | 9.0 Report Per Maximum | SU    | 1/4 Days  | Grab        |
| January thru December                    | QL                   | ***                    | ***                  |       | ***                    | ***                    | ***                    |       |           |             |
| Solids, Total Suspended                  | Effluent Gross Value | *****                  | *****                | ***** | *****                  | REPORT Monthly Average | 40 Daily Maximum       | MG/L  | 1/4 Days  | Grab        |
| January thru December                    | QL                   | ***                    | ***                  |       | ***                    | ***                    | ***                    |       |           |             |
| Carbon, Tot Organic (TOC)                | Effluent Gross Value | *****                  | *****                | ***** | *****                  | REPORT Monthly Average | 20 Daily Maximum       | MG/L  | 1/4 Days  | Grab        |
| January thru December                    | QL                   | ***                    | ***                  |       | ***                    | ***                    | ***                    |       |           |             |

**Surface Water DMR Reporting Requirements:**

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

**Comments:**

For short term discharges: A monitoring frequency of 1/4 days shall apply for discharges lasting for 1 month or less; 1/week for discharges lasting from 1 month to 3 months; and 1/2 weeks for discharges lasting greater than 3 months. Specific toxics will be included in place of the "Priority Pollutant Scan" on a case-by-case basis. No chronic WET.

**Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

| Parameter               | Sample Point         | Limit | Limit | Units | Limit | Limit                        | Limit                      | Units | Frequency | Sample Type |
|-------------------------|----------------------|-------|-------|-------|-------|------------------------------|----------------------------|-------|-----------|-------------|
| Priority Pollutant Scan | Effluent Gross Value | ***** | ***** | ***** | ***** | REPORT<br>Monthly<br>Average | REPORT<br>Daily<br>Maximum | UG/L  | 1/4 Days  | Grab        |
| January thru December   | QL                   | ***   | ***   |       | ***   | ***                          | ***                        |       |           |             |

**MONITORED LOCATION:**

SI6A Residuals Requirements

**DISCHARGE CATEGORY(IES):**BGR - General Remediation Clean-up  
(GP)**Location Description**

Sludge sampling and analysis determined on a case-by-case basis and in conformance with the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C).

**Contributing Waste Types**

Ind Residual-Other

**Residuals DMR Reporting Requirements:**

Submit an Annual DMR: due 60 calendar days after the end of each calendar year.

**Comments:**

Sampling and analysis of the sludge for the parameters contained on "Part III - Attachment Residuals" determined on a case-by-case basis. For existing dischargers, please refer to tables in Attachments 1 and 2 for the requirements that will be contained in the individual authorizations.

**Table III - C - 1: Residuals DMR Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

| Parameter             | Sample Point         | Limit | Limit | Units | Limit | Limit                        | Limit | Units | Frequency | Sample Type |
|-----------------------|----------------------|-------|-------|-------|-------|------------------------------|-------|-------|-----------|-------------|
| Solids, Total         | Industrial Residuals | ***** | ***** | ***** | ***** | REPORT<br>Monthly<br>Average | ***** | % TS  | 1/Year    | Composite   |
| January thru December | QL                   | ***   | ***   |       | ***   | ***                          | ***   |       |           |             |

**Residuals WCR - Annual Reporting Requirements:**

Submit an Annual WCR: due 60 calendar days after the end of each calendar year.

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**Table III - C - 3: Residuals WCR - Annual Limits and Monitoring Requirements****PHASE:** Final**PHASE Start Date:****PHASE End Date:**

| <b>Parameter</b>                    | <b>Sample Point</b>  | <b>Compliance Quantity</b> | <b>Units</b> | <b>Sample Type</b> | <b>Monitoring Period</b> |
|-------------------------------------|----------------------|----------------------------|--------------|--------------------|--------------------------|
| Amt Sludge Rmvd,<br>Wet Cubic Yards | Industrial Residuals | REPORT                     | WCY/YR       | Calculated         | January thru December    |
| Amt Sludge Rmvd,<br>Wet Metric Tons | Industrial Residuals | REPORT                     | WMT/YR       | Calculated         | January thru December    |
| Amt Sludge Rmvd,<br>Gallons         | Industrial Residuals | REPORT                     | GAL/YEAR     | Calculated         | January thru December    |
| Total Amount of<br>Sludge Removed   | Industrial Residuals | REPORT                     | DMT/YR       | Calculated         | January thru December    |
| Solids, Total                       | Industrial Residuals | REPORT                     | %TS          | Composite          | January thru December    |

**Residuals Transfer Reporting Requirements:**

Submit an Annual RTR: due 60 calendar days after the end of each calendar year.

### **Toxic Pollutant Limitations if Detected or Known Present**

In addition to complying with the effluent limitations and monitoring conditions listed on Table 1 and Table 2 in Part III in this Master BGR permit, each parameter listed below that is detected or known to be present will be included in Part III - Surface Water DMR Reporting Requirements of the individual authorization. The limits are based on N.J.A.C. 7:14A-12, Appendix B Effluent Standards for Site Remediation Projects.

All units are in µg/L. MR is defined as monitoring and reporting.

| <b>Parameter</b>                | <b>FW2 Waters</b>          |                          | <b>SE, SC Waters</b>       |                          |
|---------------------------------|----------------------------|--------------------------|----------------------------|--------------------------|
|                                 | <u>Monthly<br/>Average</u> | <u>Daily<br/>Maximum</u> | <u>Monthly<br/>Average</u> | <u>Daily<br/>Maximum</u> |
| <b><i>Volatile Organics</i></b> |                            |                          |                            |                          |
| Acrolein                        | MR                         | 100                      | MR                         | 100                      |
| Acrylonitrile                   | MR                         | 50                       | MR                         | 50                       |
| Benzene                         | MR                         | 7                        | 37                         | 136                      |
| Bromoform                       | MR                         | 8.6                      | 29                         | 58                       |
| Carbon Tetrachloride            | MR                         | 6                        | MR                         | 8.8                      |
| Chlorobenzene                   | 15                         | 28                       | 15                         | 28                       |
| Chlorodibromomethane            | MR                         | 8.2                      | MR                         | 14                       |
| Chlorethane                     | 104                        | 268                      | 104                        | 268                      |
| Chloroform                      | MR                         | 11.4                     | 21                         | 46                       |
| Dichlorobromomethane            | MR                         | 5                        | MR                         | 12                       |
| 1,1-Dichloroethane              | 22                         | 59                       | 22                         | 59                       |
| 1,2-Dichloroethane              | MR                         | 3                        | 68                         | 211                      |
| 1, 1-Dichloroethylene           | MR                         | 6                        | 16                         | 25                       |
| 1,2-Dichloropropane             | 153                        | 230                      | 153                        | 230                      |
| 1,3-Dichloropropylene           | 10                         | 20                       | 29                         | 44                       |
| Ethylbenzene                    | 32                         | 108                      | 32                         | 108                      |
| Methyl Bromide                  | 20                         | 40                       | 20                         | 40                       |
| Methyl Chloride                 | 86                         | 190                      | 86                         | 190                      |
| Methylene Chloride              | MR                         | 9.4                      | 40                         | 89                       |
| 1,1,2,2 Tetrachloroethane       | MR                         | 10                       | MR                         | 10                       |
| Tetrachloroethylene             | MR                         | 16                       | 22                         | 56                       |
| Toluene                         | 26                         | 80                       | 26                         | 80                       |
| 1,2-Trans-Dichloroethylene      | 21                         | 54                       | 21                         | 54                       |
| 1,1,1-Trichloroethane           | 21                         | 54                       | 21                         | 54                       |
| 1,1,2-Trichloroethane           | MR                         | 12                       | 21                         | 54                       |
| Trichloroethylene               | MR                         | 5.4                      | 21                         | 54                       |
| Vinyl Chloride                  | MR                         | 10                       | 104                        | 268                      |
| <b><i>Acid Compounds</i></b>    |                            |                          |                            |                          |
| 2-Chlorophenol                  | 31                         | 98                       | 31                         | 98                       |
| 2,4 Dichlorophenol              | 39                         | 112                      | 39                         | 112                      |



| Parameter                            | FW2 Waters             |                      | SE, SC Waters          |                      |
|--------------------------------------|------------------------|----------------------|------------------------|----------------------|
|                                      | <u>Monthly Average</u> | <u>Daily Maximum</u> | <u>Monthly Average</u> | <u>Daily Maximum</u> |
| 2,4 Dimethylphenol                   | 18                     | 36                   | 18                     | 36                   |
| 4,6 Dinitro-O-Cresol                 | MR                     | 60                   | 78                     | 277                  |
| 2,4 Dinitrophenol                    | 71                     | 123                  | 71                     | 123                  |
| 2-Nitrophenol                        | 41                     | 69                   | 41                     | 69                   |
| 4-Nitrophenol                        | 72                     | 124                  | 72                     | 124                  |
| Pentachlorophenol                    | MR                     | 30                   | MR                     | 30                   |
| Phenol                               | 15                     | 26                   | 15                     | 26                   |
| 2,4,6 Trichlorophenol                | MR                     | 20                   | MR                     | 20                   |
| <b><i>Base/Neutral Compounds</i></b> |                        |                      |                        |                      |
| Anthracene                           | 22                     | 59                   | 22                     | 59                   |
| Benzidine                            | MR                     | 50                   | MR                     | 50                   |
| Benzo (a) Anthracene                 | MR                     | 10                   | MR                     | 10                   |
| Benzo (a) Pyrene                     | MR                     | 20                   | MR                     | 20                   |
| Benzo (b) fluoranthene               | MR                     | 10                   | MR                     | 10                   |
| Benzo (k) fluoranthene               | MR                     | 20                   | MR                     | 20                   |
| Bis (2-Chloroethyl) Ether            | MR                     | 10                   | MR                     | 10                   |
| Bis (2-Chloroisopropyl) Ether        | 301                    | 757                  | 301                    | 757                  |
| Bis (2-Ethylhexyl)Phthalate          | MR                     | 36                   | 59                     | 118                  |
| Butyl Benzyl Phthalate               | MR                     | 24                   | MR                     | 24                   |
| Chrysene                             | MR                     | 20                   | MR                     | 20                   |
| Dibenzo (a,h) Anthracene             | MR                     | 20                   | MR                     | 20                   |
| 1,2 Dichlorobenzene                  | 77                     | 163                  | 77                     | 163                  |
| 1,3 Dichlorobenzene                  | 31                     | 44                   | 31                     | 44                   |
| 1,4 Dichlorobenzene                  | MR                     | 28                   | MR                     | 28                   |
| 3,3 Dichlorobenzidine                | MR                     | 60                   | MR                     | 60                   |
| Diethyl Phthalate                    | 81                     | 203                  | 81                     | 203                  |
| Dimethyl Phthalate                   | 19                     | 47                   | 19                     | 47                   |
| Di-N-Butyl Phthalate                 | 27                     | 57                   | 27                     | 57                   |
| 2,4 Dinitrotoluene                   | MR                     | 10                   | MR                     | 18.2                 |
| 2,6 Dinitrotoluene                   | 255                    | 641                  | 255                    | 641                  |
| Fluoranthene                         | 25                     | 68                   | 25                     | 68                   |
| Fluorene                             | 22                     | 59                   | 22                     | 59                   |
| Hexachlorobenzene                    | MR                     | 10                   | MR                     | 10                   |
| Hexachlorobutadiene                  | MR                     | 10                   | 20                     | 49                   |
| Hexchloropentadiene                  | 240                    | 480                  | MR                     | 1800                 |
| Hexachloroethane                     | 19                     | 38                   | 21                     | 54                   |
| Ideno (1,2,3-cd) Pyrene              | MR                     | 20                   | MR                     | 20                   |
| Isophorone                           | MR                     | 20                   | MR                     | 20                   |

| Parameter                            | FW2 Waters             |                      | SE, SC Waters          |                      |
|--------------------------------------|------------------------|----------------------|------------------------|----------------------|
|                                      | <u>Monthly Average</u> | <u>Daily Maximum</u> | <u>Monthly Average</u> | <u>Daily Maximum</u> |
| <b><i>Base/Neutral Compounds</i></b> |                        |                      |                        |                      |
| Naphthalene                          | 22                     | 59                   | 22                     | 59                   |
| Nitrobenzene                         | 17                     | 34                   | 27                     | 68                   |
| N-Nitrosodimethylamine               | MR                     | 20                   | MR                     | 20                   |
| N-Nitrosodiphenylamine               | MR                     | 20                   | MR                     | 20                   |
| Phenanthrene                         | 22                     | 59                   | 22                     | 59                   |
| Pyrene                               | 25                     | 67                   | 25                     | 67                   |
| 1,2,4 Trichlorobenzene               | 68                     | 140                  | 68                     | 140                  |
| <b><i>Pesticides</i></b>             |                        |                      |                        |                      |
| Aldrin                               | MR                     | 0.04                 | MR                     | 0.04                 |
| Alpha-BHC                            | MR                     | 0.02                 | MR                     | 0.02                 |
| Beta-BHC                             | 0.137                  | 0.274                | 0.46                   | 0.92                 |
| Gamma-BHC (Lindane)                  | MR                     | 0.08                 | MR                     | 0.03                 |
| Chlordane                            | MR                     | 0.2                  | MR                     | 0.2                  |
| 4,4' -DDT                            | MR                     | 0.06                 | MR                     | 0.06                 |
| 4,4' -DDE                            | MR                     | 0.04                 | MR                     | 0.04                 |
| 4,4' -DDD                            | MR                     | 0.04                 | MR                     | 0.04                 |
| Dieldrin                             | MR                     | 0.03                 | MR                     | 0.03                 |
| Alpha-Endosulfan                     | MR                     | 0.02                 | MR                     | 0.02                 |
| Beta-Endosulfan                      | MR                     | 0.04                 | MR                     | 0.04                 |
| Endosulfan Sulfate                   | 0.93                   | 1.86                 | 2                      | 4                    |
| Endrin                               | MR                     | 0.04                 | MR                     | 0.04                 |
| Endrin Aldehyde                      | 0.76                   | 1.52                 | 0.81                   | 1.62                 |
| Heptachlor                           | MR                     | 0.02                 | MR                     | 0.02                 |
| Heptachlor Expoxide                  | MR                     | 0.4                  | MR                     | 0.4                  |
| Toxaphene                            | MR                     | 1                    | MR                     | 1                    |
| <b><i>Metals and Cyanide</i></b>     |                        |                      |                        |                      |
| Arsenic                              | 50                     | 100                  | 50                     | 100                  |
| Cadmium                              | 50                     | 100                  | 50                     | 100                  |
| Chromium                             | 50                     | 100                  | 50                     | 100                  |
| Copper                               | 50                     | 100                  | 50                     | 100                  |
| Iron                                 | MR                     | MR                   | MR                     | MR                   |
| Lead                                 | 50                     | 100                  | 50                     | 100                  |
| Mercury                              | MR                     | 1                    | MR                     | 1                    |
| Nickel                               | 72                     | 144                  | 50                     | 100                  |
| Selenium                             | 50                     | 100                  | 50                     | 100                  |
| Silver                               | 25                     | 50                   | 25                     | 50                   |
| Zinc                                 | 100                    | 200                  | 100                    | 200                  |
| Cyanide                              | 100                    | 200                  | 100                    | 200                  |

| <b>Parameter</b>                                  | <b>FW2 Waters</b>          |                          | <b>SE, SC Waters</b>       |                          |
|---|----------------------------|--------------------------|----------------------------|--------------------------|
|   | <u>Monthly<br/>Average</u> | <u>Daily<br/>Maximum</u> | <u>Monthly<br/>Average</u> | <u>Daily<br/>Maximum</u> |
| <b><i>Dioxin</i></b>                              |                            |                          |                            |                          |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin               | MR                         | 0.01                     | MR                         | 0.01                     |
| <b><i>PCBs</i></b>                                |                            |                          |                            |                          |
| PCBs- 1242, 1254, 1221, 1232, 1248, 1260 and 1016 | MR                         | 0.5                      | MR                         | 0.5                      |
| <b><i>Other</i></b>                               |                            |                          |                            |                          |
| Methyl-Tert-Butyl Ether (MTBE)                    | MR                         | 70                       | MR                         | 70                       |
| Tert-Butyl-Alcohol (TBA)                          | 500                        | MR                       | 500                        | MR                       |

**Appendix - Monitoring Parameter Tables**

**Table I**  
**Primary Metals and Selected Chemical Parameters**

**Total Solids, (percent by weight)**

**Arsenic, total**

**Beryllium, total**

**Cadmium, total**

**Calcium, total**

**Chromium, total**

**Copper, total**

**Lead, total**

**Mercury, total**

**Molybdenum, total**

**Nickel, total**

**Nitrogen, Total Kjeldahl (TKN)**

**Nitrogen, Ammonia (NH<sub>3</sub>-N)**

**Nitrogen, Nitrate (NO<sub>3</sub>-N)**

**Phosphorous, total**

**Potassium, total**

**Selenium, total**

**Zinc, total**

**Radionuclides (pCi/g)<sup>1</sup>**

**Dioxins and PCBs<sup>2</sup>**

Notes:

<sup>1</sup> Radionuclides are required to be tested in the sludge if the industrial or domestic treatment works receives source water or uses additives known to or suspected of having elevated radionuclide concentrations. The radionuclides required to be tested for include, but are not limited to, radium-226, radium-228, uranium-238, uranium-234, uranium-235, and thorium-232.

<sup>2</sup> Dioxin and dioxin-like compounds, including dibenzofurans, and individual PCB congeners are required to be tested in the sludge on a case by case basis as established in a NJPDES permit issued pursuant to N.J.A.C. 7:14A.

**Table II**  
**Additional Miscellaneous Compounds**

| <b><u>Parameter</u></b> | <b><u>CAS RN<sup>1</sup></u></b> |
|-------------------------|----------------------------------|
| Antimony, total         |                                  |
| Silver, total           |                                  |
| Thallium, total         |                                  |
| Cyanide, total          | 57-12-5                          |

Notes:

<sup>1</sup> Chemical Abstracts Service registry number

**Table III**  
**Volatile Organic Compounds**

| <b><u>Parameter - Name(s)</u></b>                                    | <b><u>CAS RN<sup>1</sup></u></b> |
|--|----------------------------------|
| Acrolein; (2-Propenal)   | 107-02-8                         |
| Acrylonitrile; (2-Propenenitrile)                                    | 107-13-1                         |
| Benzene  | 71-43-2                          |
| Bromoform; (Tribromomethane)   | 75-25-2                          |
| Carbon Tetrachloride; (Tetrachloromethane)                           | 56-23-5                          |
| Chlorobenzene  | 108-90-7                         |
| Chlorodibromomethane; (Dibromochloromethane)                         | 124-48-1                         |
| Chloroethane; (Ethyl chloride)                                       | 75-00-3                          |
| 2-Chloroethylvinyl Ether   | 110-75-8                         |
| Choroform; (Trichloromethane)  | 67-66-3                          |
| Dichlorobromomethane; (Bromodichloromethane)                         | 75-27-4                          |
| 1,1-Dichloroethane; (Ethylidene chloride)                            | 75-34-3                          |
| 1,2-Dichloroethane; (Ethylene dichloride)                            | 107-06-2                         |
| 1,1-Dichloroethylene; (1,1-Dichloroethene);<br>(Vinylidene chloride) | 75-35-4                          |
| 1,2-Dichloropropane; (Propylene dichloride)                          | 78-87-5                          |
| trans-1,3-Dichloropropene  | 10061-02-6                       |
| Ethylbenzene   | 100-41-4                         |
| Methyl bromide; (Bromomethane)                                       | 74-83-9                          |
| Methyl chloride; (Chloromethane)                                     | 74-87-3                          |
| Methylene chloride; (Dichloromethane)                                | 75-09-2                          |
| 1,1,2,2-Tetrachloroethane  | 79-34-5                          |
| Tetrachloroethylene; (Tetrachloroethene);<br>(Perchloroethylene)     | 127-18-4                         |
| Toluene; (Methylbenzene)   | 108-88-3                         |
| 1,2-trans-Dichloroethylene; (trans-1,2-Dichloroethene)               | 156-60-5                         |
| 1,1,1-Trichloroethane; (Methylchloroform)                            | 71-55-6                          |
| 1,1,2-Trichloroethane  | 79-00-5                          |
| Trichloroethylene; (Trichloroethene)                                 | 79-01-6                          |
| Vinyl Chloride; (Chloroethene)                                       | 75-01-4                          |

Notes:

<sup>1</sup> Chemical Abstracts Service registry number

**Table IV**  
**Acid-extractable compounds**

| <b><u>Parameter</u></b>                            | <b><u>CAS RN<sup>1</sup></u></b> |
|--|----------------------------------|
| 2-Chlorophenol                                     | 95-57-8                          |
| 2,4-Dichlorophenol                                 | 120-83-2                         |
| 2,4-Dimethylphenol; (m-Xylenol)                    | 105-67-9                         |
| 4,6-Dinitro-o-cresol; (4,6-Dinitro-2-methylphenol) | 534-52-1                         |
| 2,4-Dinitrophenol                                  | 51-28-5                          |
| 2-Nitrophenol; (o-Nitrophenol)                     | 88-75-5                          |
| 4-Nitrophenol; (p-Nitrophenol)                     | 100-02-7                         |
| p-Chloro-m-cresol; (4-Chloro-3-methylphenol)       | 59-50-7                          |
| Pentachlorophenol                                  | 87-86-5                          |
| Phenol   | 108-95-2                         |
| 2,4,6-Trichlorophenol                              | 88-06-2                          |

Notes:

<sup>1</sup> Chemical Abstracts Service registry number

**Table V**  
**Base-Neutral Compounds**

| <b><u>Parameter</u></b>  | <b><u>CAS RN<sup>1</sup></u></b> |
|--|----------------------------------|
| Acenaphthene; (1,2-dihydro-Acenaphthylene)                         | 83-32-9                          |
| Acenaphthylene   | 208-96-8                         |
| Anthracene   | 120-12-7                         |
| Benzidine  | 92-87-5                          |
| Benzo(a)anthracene   | 56-55-3                          |
| Benzo(a)pyrene   | 50-32-8                          |
| 3,4-Benzofluoranthene; (Benzo(b)fluoranthene)                      | 205-99-2                         |
| Benzo(g,h,i)perylene   | 191-24-2                         |
| Benzo(k)Fluoranthene   | 207-08-9                         |
| bis(2-Chloroethoxy)methane   | 111-91-1                         |
| bis(2-Chloroethyl)ether  | 111-44-4                         |
| bis(2-Chloroisopropyl)ether;<br>(Bis(2-chloro-1-methylethyl)ether) | 108-60-1                         |
| bis(2-Ethylhexyl)phthalate   | 117-81-7                         |
| 4-Bromophenyl phenyl ether;<br>(1-bromo-4-phenoxy Benzene)         | 101-55-3                         |
| Butyl benzyl phthalate; (Benzyl butyl phthalate)                   | 85-68-7                          |
| 2-Chloronaphthalene  | 91-58-7                          |
| 4-Chlorophenyl phenyl ether;                                       | 7005-72-3                        |
| Chrysene   | 218-01-9                         |
| Dibenzo(a,h)anthracene   | 53-70-3                          |
| 1,2-Dichlorobenzene; (o-Dichlorobenzene)                           | 95-50-1                          |
| 1,3-Dichlorobenzene; (m-Dichlorobenzene)                           | 541-73-1                         |
| 1,4-Dichlorobenzene; (p-Dichlorobenzene)                           | 106-46-7                         |
| 3,3-Dichlorobenzidine  | 91-94-1                          |
| Diethyl phthalate  | 84-66-2                          |
| Dimethyl phthalate   | 131-11-3                         |
| Di-n-butyl phthalate   | 84-74-2                          |
| 2,4-Dinitrotoluene; (1-methyl-2,4-dinitrobenzene)                  | 121-14-2                         |
| 2,6-Dinitrotoluene; (2-methyl-1,3-dinitrobenzene)                  | 606-20-2                         |
| Di-n-octyl phthalate   | 117-84-0                         |
| 1,2-Diphenylhydrazine  | 122-66-7                         |
| Fluoranthene   | 206-44-0                         |
| Fluorene   | 86-73-7                          |
| Hexachlorobenzene  | 118-74-1                         |
| Hexachlorobutadiene  | 87-68-3                          |
| Hexachlorocyclopentadiene  | 77-47-4                          |
| Hexachloroethane   | 67-72-1                          |
| Indeno(1,2,3-c,d)pyrene  | 193-39-5                         |
| Isophorone   | 78-59-1                          |
| Naphthalene  | 91-20-3                          |



|  |                 |
|--|-----------------|
| <b>Nitrobenzene</b>  | <b>98-95-3</b>  |
| <b>N-Nitrosodimethylamine</b>                              | <b>62-75-9</b>  |
| <b>N-Nitrosodi-n-propylamine; (N-Nitrosodipropylamine)</b> |                 |
| <b>(Di-n-propylnitrosamine)</b>                            | <b>621-64-7</b> |
| <b>N-Nitrosodiphenylamine</b>                              | <b>86-30-6</b>  |
| <b>Phenanthrene</b>  | <b>85-01-8</b>  |
| <b>Pyrene</b>  | <b>129-00-0</b> |
| <b>1,2,4-Trichlorobenzene</b>                              | <b>120-82-1</b> |

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Notes:

<sup>1</sup> Chemical Abstracts Service registry number

**Table VI**  
**Pesticides and PCB**

| <b><u>Parameter</u></b> | <b><u>CAS RN<sup>1</sup></u></b> |
|-------------------------|----------------------------------|
| Aldrin                  | 309-00-2                         |
| alpha-BHC               | 319-84-6                         |
| beta-BHC                | 319-85-7                         |
| gamma-BHC; (Lindane)    | 58-89-9                          |
| delta-BHC               | 319-86-8                         |
| Chlordane               | (see note 2)                     |
| 4,4'-DDT                | 50-29-3                          |
| 4,4'-DDE                | 72-55-9                          |
| 4,4'-DDD                | 72-54-8                          |
| Dieldrin                | 60-57-1                          |
| alpha-Endosulfan        | 959-98-8                         |
| beta-Endosulfan         | 33213-65-9                       |
| Endosulfan sulfate      | 1031-07-8                        |
| Endrin                  | 72-20-8                          |
| Endrin aldehyde         | 7421-93-4                        |
| Heptachlor              | 76-44-8                          |
| Heptachlor epoxide      | 1024-57-3                        |
| PCB-1242                | 53469-21-9                       |
| PCB-1254                | 11097-69-1                       |
| PCB-1221                | 11104-28-2                       |
| PCB-1232                | 11141-16-5                       |
| PCB-1248                | 12672-29-6                       |
| PCB-1260                | 11096-82-5                       |
| PCB-1016                | 12674-11-2                       |
| Toxaphene               | 8001-35-2                        |

Notes:

<sup>1</sup> Chemical Abstracts Service registry number

<sup>2</sup> Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

**Table VII**  
**Conventional and Nonconventional Pollutants**

**Parameter**

Aluminum, Total  
Barium, Total  
Boron, Total  
Cobalt, Total  
Iron, Total  
Magnesium, Total  
Manganese, Total  
Strontium, Total  
Tin, Total  
Titanium, Total  
Vanadium, Total  
Zirconium, Total

**Hazardous Substances**

**Parameter**

**CAS RN<sup>1</sup>**

|  |           |
|--|-----------|
| Acetone; (2-Propanone)                   | 67-64-1   |
| Acetonitrile; (Methyl cyanide)           | 75-05-8   |
| Acetophenone                             | 98-86-2   |
| 2-Acetylaminofluorene; (2-AFF)           | 53-96-3   |
| Acrylamide                               | 79-06-1   |
| Allyl chloride                           | 107-05-1  |
| 4-Aminobiphenyl                          | 92-67-1   |
| Atrazine                                 | 1912-24-9 |
| Benzaldehyde                             | 100-52-7  |
| Benzyl alcohol                           | 100-51-6  |
| 1,1 Biphenyl                             | 92-52-4   |
| Bromochloromethane; (Chlorobromomethane) | 74-97-5   |
| Caprolactam                              | 105-60-2  |
| Carbazole                                | 86-74-8   |
| Carbon disulfide                         | 75-15-0   |
| p-Chloroaniline; (4-chlorobenzenamine)   | 106-47-8  |
| Chlorobenzilate                          | 510-15-6  |
| Chloroprene; (2-chloro-1,3-butadiene)    | 126-99-8  |
| m-Cresol; (3-methylphenol)               | 108-39-4  |
| o-Cresol; (2-methylphenol)               | 95-48-7   |
| p-Cresol; (4-methylphenol)               | 106-44-5  |
| 2,4-D; (2, 4-Dichlorophenoxyacetic acid) | 94-75-7   |
| Diallate                                 | 2303-16-4 |

|  |                   |
|--|-------------------|
| <b>Dibenzofuran</b>  | <b>132-64-9</b>   |
| <b>1,2-Dibromo-3-chloropropane; (DBCP)</b>                         | <b>96-12-8</b>    |
| <b>1,2-Dibromoethane; (Ethylene dibromide); (EDB)</b>              | <b>106-93-4</b>   |
| <b>trans-1,4-Dichloro-2-butene</b>                                 | <b>110-57-6</b>   |
| <b>Dichlorodifluoromethane; (CFC 12)</b>                           | <b>75-71-8</b>    |
| <b>cis-1,2-Dichloroethylene; (cis-1,2-Dichloroethene)</b>          | <b>156-59-2</b>   |
| <b>2,6-Dichlorophenol</b>  | <b>87-65-0</b>    |
| <b>1,3-Dichloropropane; (Trimethylene dichloride)</b>              | <b>142-28-9</b>   |
| <b>2,2-Dichloropropane; (Isopropylidene chloride)</b>              | <b>594-20-7</b>   |
| <b>1,1- Dichloropropene</b>  | <b>563-58-6</b>   |
| <b>cis-1,3-Dichloropropene</b>                                     | <b>10061-01-5</b> |
| <b>0,0-Diethyl 0-2-pyrazinyl phosphorothioate;<br/>(Thionazin)</b> | <b>297-97-2</b>   |
| <b>Dimethoate</b>  | <b>60-51-5</b>    |
| <b>p-(Dimethylamino)azobenzene</b>                                 | <b>60-11-7</b>    |
| <b>7,12-Dimethylbenz[a]anthracene</b>                              | <b>57-97-6</b>    |
| <b>3,3-Dimethylbenzidine</b>                                       | <b>119-93-7</b>   |
| <b>m-Dinitrobenzene; (1,3-dinitrobenzene)</b>                      | <b>99-65-0</b>    |
| <b>Dinoseb; (DNBP)</b>   | <b>88-85-7</b>    |
| <b>Diphenylamine; (N-phenylbenzenamine)</b>                        | <b>122-39-4</b>   |
| <b>Disulfoton</b>  | <b>298-04-4</b>   |
| <b>Ethylbenzene</b>  | <b>100-41-4</b>   |
| <b>Ethyl methacrylate</b>  | <b>97-63-2</b>    |
| <b>Ethyl methanesulfonate</b>                                      | <b>62-50-0</b>    |
| <b>Famphur</b>   | <b>52-85-7</b>    |
| <b>Hexachloropropene</b>   | <b>1888-71-7</b>  |
| <b>2-Hexanone; (Methyl butyl ketone)</b>                           | <b>591-78-6</b>   |
| <b>Isobutyl alcohol</b>  | <b>78-83-1</b>    |
| <b>Isodrin</b>   | <b>465-73-6</b>   |
| <b>Isosafrole</b>  | <b>120-58-1</b>   |
| <b>Kepone</b>  | <b>143-50-0</b>   |
| <b>Methacrylonitrile</b>   | <b>126-98-7</b>   |
| <b>Methapyrilene</b>   | <b>91-80-5</b>    |
| <b>Methoxychlor</b>  | <b>72-43-5</b>    |
| <b>Methyl acetate</b>  | <b>79-20-9</b>    |
| <b>3-Methylcholanthrene</b>  | <b>56-49-5</b>    |
| <b>Methylcyclohexane</b>   | <b>108-87-2</b>   |
| <b>Methylene bromide; (Dibromomethane)</b>                         | <b>74-95-3</b>    |
| <b>Methyl ethyl ketone; (MEK); (2-Butanone)</b>                    | <b>78-93-3</b>    |
| <b>Methyl iodide; (Iodomethane)</b>                                | <b>74-88-4</b>    |
| <b>Methyl methacrylate</b>   | <b>80-62-6</b>    |
| <b>Methyl methanesulfonate</b>                                     | <b>66-27-3</b>    |
| <b>2-Methylnaphthalene</b>   | <b>91-57-6</b>    |
| <b>Methyl parathion; (Parathion methyl)</b>                        | <b>298-00-0</b>   |
| <b>4-Methyl-2-pentanone; (Methyl isobutyl ketone)</b>              | <b>108-10-1</b>   |
| <b>Methyl-tert-butyl ether (MTBE)</b>                              | <b>1634-04-4</b>  |

|   |                   |
|---|-------------------|
| <b>1,4-Naphthoquinone; (1,4-Naphthalenedione)</b>                               | <b>130-15-4</b>   |
| <b>1-Naphthylamine; (1-Naphthalenamine)</b>                                     | <b>134-31-7</b>   |
| <b>2-Naphthylamine; (2-Naphthalenamine)</b>                                     | <b>91-59-8</b>    |
| <b>o-Nitroaniline; (2-Nitroaniline); (2-nitrobenzenamine)</b>                   | <b>88-74-4</b>    |
| <b>m-Nitroaniline; (3-Nitroaniline); (3-nitrobenzenemine)</b>                   | <b>99-09-2</b>    |
| <b>p-Nitroaniline; (4-Nitroaniline); (4-nitrobenzenamine)</b>                   | <b>100-01-6</b>   |
| <b>N-Nitrosodi-n-butylamine</b>   | <b>924-16-3</b>   |
| <b>N-Nitrosodiethylamine</b>  | <b>55-18-5</b>    |
| <b>N-Nitrosomethylethylamine</b>  | <b>10595-95-6</b> |
| <b>N-Nitrosopiperidine</b>  | <b>100-75-4</b>   |
| <b>N-Nitrosopyrrolidine</b>   | <b>930-55-2</b>   |
| <b>5-Nitro-o-toluidine</b>  | <b>99-55-8</b>    |
| <b>Parathion</b>  | <b>56-38-2</b>    |
| <b>Pentachlorobenzene</b>   | <b>606-93-5</b>   |
| <b>Pentachloronitrobenzene</b>  | <b>82-68-8</b>    |
| <b>Phenacetin</b>   | <b>62-44-2</b>    |
| <b>p-Phenylenediamine; (1,4-Benzenediamine)</b>                                 | <b>106-50-3</b>   |
| <b>Phorate</b>  | <b>298-02-2</b>   |
| <b>Pronamide</b>  | <b>23950-58-5</b> |
| <b>Propionitrile; (Ethyl cyanide); (Propanenitrile)</b>                         | <b>107-12-0</b>   |
| <b>Safrole</b>  | <b>94-59-7</b>    |
| <b>Silvex; (2,4,5-TP);</b><br><b>[2-(2,4,5-Trichlorophenoxy)propanoic acid]</b> | <b>93-72-1</b>    |
| <b>Styrene</b>  | <b>100-42-5</b>   |
| <b>Sulfide</b>  | <b>18496-25-8</b> |
| <b>2,4,5-T; (2,4,5-Trichlorophenoxyacetic acid)</b>                             | <b>93-76-5</b>    |
| <b>Tertiary butyl alcohol (TBA)</b>   | <b>75-65-0</b>    |
| <b>1,2,4,5-Tetrachlorobenzene</b>   | <b>95-94-3</b>    |
| <b>1,1,1,2-Tetrachloroethane</b>  | <b>630-20-6</b>   |
| <b>2,3,4,6-Tetrachlorophenol</b>  | <b>58-90-2</b>    |
| <b>o-Toluidine</b>  | <b>95-53-4</b>    |
| <b>Trichlorofluoromethane; (CFC- 11)</b>  | <b>75-69-4</b>    |
| <b>2,4,5-Trichlorophenol</b>  | <b>95-95-4</b>    |
| <b>1,2,3-Trichloropropane</b>   | <b>96-18-4</b>    |
| <b>1,1,2-Trichloro-1,2,2-trifluoroethane</b>                                    | <b>76-13-1</b>    |
| <b>0,0,0-Triethyl phosphorothioate</b>  | <b>126-68-1</b>   |
| <b>sym-Trinitrobenzene; (1,3,5-trinitrobenzene)</b>                             | <b>99-35-4</b>    |
| <b>Vinyl acetate</b>  | <b>108-05-4</b>   |
| <b>Xylene (total)<sup>2</sup></b>   |                   |

Notes:

<sup>1</sup> Chemical Abstracts Service registry number

<sup>2</sup> Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).



## **PART IV**

### **SPECIFIC REQUIREMENTS: NARRATIVE**

#### **General Remediation Clean-up (GP)**

##### **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. When more than one test procedure is approved for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136, 40 CFR 122.21(e)(3) and CFR 122.44(i)(1)(iv).
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- g. If annual and semi-annual wastewater testing is specified, it shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.
- h. The permittee shall perform all residual analyses in accordance with the analytical test procedures specified in 40 CFR 503.8 and the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C) unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- i. Flow shall be measured using a meter unless specified otherwise in the individual authorization.

##### **B. RECORDKEEPING**

###### **1. Standard Recordkeeping Requirements**

- a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information

required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.

- b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

## **C. SUBMITTALS**

### **1. Standard Submittal Requirements**

- a. The permittee shall amend the Operation & Maintenance Manual whenever there is a change in the treatment works design, construction, operations or maintenance which substantially changes the treatment works operations and maintenance procedures.

## **D. FACILITY MANAGEMENT**

### **1. Discharge Requirements**

- a. The permittee shall discharge at the location(s) specified in Part III of this permit.
- b. The permittee shall not discharge foam or cause foaming of the receiving water that: 1) Forms objectionable deposits on the receiving water, 2) Forms floating masses producing a nuisance, or 3) Interferes with a designated use of the waterbody.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.

### **2. Delaware River Basin Commission (DRBC) Requirements - applicable to those facilities which discharge to the Delaware River Basin**

- a. The permittee shall comply with the DRBC "Water Quality Regulations."
- b. Except as otherwise authorized by this permit, if the permittee seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the permittee shall apply for approval from the DRBC Executive Director and NJDEP for a permit revision.
- c. Specific Requirements apply to facilities discharging to Zone 1 and its tributaries that are designated as Special Protection Waters by the DRBC.
  - i. Prior to the permittee initiating any substantial alterations or additions to the existing WWTP as defined in Section 3.10.3A2.a.16 of the Delaware River Basin Commission's Water Quality Regulations (18 CFR Part 410), a No Measurable Change to the Existing Water Quality Analysis must be conducted by the Delaware River Basin Commission. The No Measurable Change to Existing Water Quality Analysis shall be conducted prior to final design to ensure that the Commission can provide the permittee with proposed effluent limitations to be included in a future NJPDES permit for Special Protection Waters specific parameters as guidance for treatment design purposes. The permittee is



encouraged to contact DRBC staff during the planning stages of any project that meets the definition of substantial alteration or additions, as per DRBC.

- d. NJDEP may require TDS monitoring for those facilities that discharge to the Delaware River Basin.
  - i. The permittee may conduct a study to determine if specific conductance may be substituted for TDS in the permit. The study should include effluent specific data to be used to determine a correlation between TDS and specific conductance. Upon review, the Delaware River Basin Commission will determine if the permit may be modified to allow the substitution of specific conductivity for TDS monitoring. The TDS limit would then be supplanted by a specific conductance limit in the permit.
- e. Based upon the written recommendation of the DRBC staff, when the discharge is operated in accordance with the provisions and conditions established by this permit, then with respect to effluent quality and stream quality objectives, the project does not substantially impair or conflict with the Commission's Comprehensive Plan

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

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

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

- a. Surface Water Discharge Monitoring Report (DMR) Form Requirements
  - i. For new authorizations under Table 1: The chronic WET compliance schedule, if applicable, is as follows:

The "initial" phase monitoring and reporting as a minimum are effective from the effective date of the individual authorization (EDP) until EDP + 36 months.

The "final" phase limitation of IC25 $\geq$ 61% becomes effective on EDP + 36 months as specified in the individual authorizations.
  - ii. For renewal authorizations, under Table 1, the final WET limit becomes effective on the date specified in the individual authorization.
- b. Wastewater Characterization Report (WCR) Form Requirements (if applicable)
  - i. The final effluent monitoring conditions contained in Part III apply for the full term of this permit action.

**5. Acute Toxicity Testing Requirements (applicable only if an acute toxicity limit or action level is specified in Part III)**

- a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- b. Acute toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- c. Any test that does not meet the specifications of N.J.A.C. 7:18, laboratory certification regulations, must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- d. For renewal authorizations: The permittee shall submit an Acute Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.
- e. If an annual monitoring frequency is specified for Acute WET: The permittee shall submit an acute whole effluent toxicity test report due within twenty-five days after the end of every annual monitoring period beginning from the effective date of the permit.
- f. Test reports shall be submitted electronically to: [biomonitoring@dep.nj.gov](mailto:biomonitoring@dep.nj.gov).

**6. Chronic Toxicity Testing Requirements (applicable only if a chronic toxicity limit is specified in Part III)**

- a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- b. Chronic toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- c. Any test that does not meet the specifications contained in the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Program" document must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- d. IC25 - Inhibition Concentration - Concentration of effluent which has an inhibitory effect on 25% of the test organisms for the monitored effect, as compared to the control (expressed as percent effluent).
- e. Test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing endpoint yields IC25's from more than one test endpoint, the most sensitive endpoint will be used to evaluate effluent toxicity.

- f. For new authorizations: The permittee shall submit a Chronic Methodology Questionnaire within 60 days from the effective date of the permit (EDP).
- g. For renewal authorizations: The permittee shall resubmit a Chronic Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.
- h. If a quarterly monitoring frequency is specified for Chronic WET: The permittee shall submit a chronic whole effluent toxicity test report within twenty-five days after the end of every quarterly month during which a chronic whole effluent toxicity test was performed (EDP).
- i. If a semi-annual monitoring frequency is specified for Chronic WET: The permittee shall submit a chronic whole effluent toxicity test report due within twenty-five days after the end of every six (6) month monitoring period beginning from the effective date of the permit.
- j. If an annual monitoring frequency is specified for Chronic WET: The permittee shall submit a chronic whole effluent toxicity test report due within twenty-five days after the end of every annual monitoring period beginning from the effective date of the permit.
- k. Test reports shall be submitted electronically to: [biomonitoring@dep.nj.gov](mailto:biomonitoring@dep.nj.gov).

**7. Toxicity Reduction Implementation Requirements (TRIR) (applicable only if a whole effluent toxicity limit or action level is specified in Part III)**

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity limit/action level specified in Part III of this Permit.
  - i. If the exceedance of the toxicity limit/action level is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limit/action level in Part III. The monitoring frequency for toxicity testing shall be increased to semi-monthly (i.e. every two months). Up to 12 additional tests may be required.
  - i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity limit/action level.
  - ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit/action level in Part III, the permittee shall repeat Toxicity Reduction Implementation Requirements.

- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the fourth exceedance of the toxicity limit/action level specified in Part III during toxicity characterization.
  - i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.
  - ii. As appropriate, the PTI shall include:
    - (1) treatment plant performance evaluation,
    - (2) evaluation of chemical use and processes at the facility, and
    - (3) an evaluation of incidental facility procedures and chemical spill disposal which may contribute to effluent toxicity.
  - iii. The permittee shall submit a Preliminary Toxicity Identification Notification within 15 months of triggering TRIR. This notification shall include a determination that the permittee intends to demonstrate compliance OR plans to initiate a CTI.
- d. The permittee must demonstrate compliance with the WET limitation/action level in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.
- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit/action level in Part III can not be made.
  - i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.
  - ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit/action level in Part III, a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
  - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
  - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.
- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.

- i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit/action level in Part III in four consecutive toxicity tests.
- ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit/action level in Part III, the permittee shall submit a plan for resuming the CTI.
- iii. Documents regarding TRIR shall be sent to: biomonitring @dep.nj.gov.

## **E. Notification Requirements**

### **1. Outfall Tag**

- a. For new discharges, the permittee shall notify the Department that a tag to mark the location of the outfall pipe has been installed consistent with N.J.A.C. 7:14A-6.2(a)9.
- b. For existing discharges, the permittee shall ensure that all outfall tags are installed and maintained in accordance with N.J.A.C. 7:14A-6.2(a)9.

## **F. CONDITIONS FOR MODIFICATION**

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

- a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.
- b. For new dischargers where a chronic whole effluent toxicity requirement is imposed: The Department may issue a minor modification further deferring the effective date of the chronic whole effluent toxicity limitation if a facility is implementing the Toxicity Reduction Implementation Requirements (TRIR) in Part IV of this permit.
- c. The Department may modify individual authorizations under this permit through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1 to reduce WET monitoring to either semi-annual or annual. The criteria for such reduction is consistent compliance with the WET limit for a minimum of 4 data points with a result of >100. The Department may also consider site-specific characteristics such as discharge volume, location and wastewater constituents.
- d. The Department may modify individual authorizations under this permit through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1 to reduce toxic and conventional parameters monitoring to quarterly or an alternate monitoring frequency provided that all parameters are consistently in compliance and in consideration of flow volumes. The permittee may request a reduction in monitoring frequency when 4 consecutive test results of "non-detect" have occurred using the specified sufficiently sensitive detection level and method.

## **G. OPERATIONAL ISSUES**

### **1. Operational Requirements**

- a. The treatment works shall operate at the optimal average design flow rate for maximum groundwater clean-up.
- b. Filter backwash water must be returned through the treatment system prior to discharge.
- c. The permittee shall not attain any effluent limitations by dilution pursuant to N.J.A.C. 7:14A-6.2.
- d. Specifically, the permittee shall not pump from a recovery well and divert such waters to the treatment system for the purposes of diluting groundwater from other contaminated recovery wells.
- e. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge.

### **2. Use of Chemical Addition Agents**

- a. If a permittee proposes addition of any chemical or biofouling agents in its treatment system in order to enhance treatment effectiveness and system performance, the permittee must obtain permission from the Department in writing or via email prior to use of such compounds.
- b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall also include a Safety Data Sheet for the product(s). The letter shall be submitted via email to the Department's Bureau of Surface Water and Pretreatment Permitting at [dwq\\_bswp@dep.nj.gov](mailto:dwq_bswp@dep.nj.gov) 30 days before the anticipated use. The Department will then evaluate the submittal and notify the permittee in writing or via email as to whether the compound can be utilized under the conditions of the individual authorization under the permit.
  - i. Consistent with N.J.A.C. 7:14A-22.4(a)7, a Treatment Works Approval (TWA) modification is not required for chemical addition, where it is used for purposes of improving treatment system performance.

### **3. Third Party Storm Sewers**

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

**4. Permanent Cessation of Discharge to Surface Waters**

- a. If the permittee permanently discontinues its discharge to surface waters the appropriate Regional Bureau of Water and Compliance Enforcement shall be notified:
  - i. Northern Bureau: (973) 656-4099 (Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union and Warren).
  - ii. Southern Bureau: (609) 292-3010 (Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Middlesex, Monmouth, Ocean and Salem).

**5. Revocation of an Individual Authorization under the Master BGR General Permit.**

- a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the master BGR permit. The permittee can obtain the necessary revocation forms by accessing [https://www.nj.dep.dov/dep/dwq/pdf/revocation\\_form.pdf](https://www.nj.dep.dov/dep/dwq/pdf/revocation_form.pdf) or by contacting the Department's Permit Administration Section (PAS) at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.
  - i. Monitoring Report Forms (MRFs) must continue to be submitted even after the discharge is ceased until such time as the MRFs are inactivated or the individual authorization is revoked.
- b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate regional Enforcement Office that the discharge has ceased. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee.

**APPENDIX A:**

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

**Version 3.0**

**May 2017**



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### **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 and outline and implement the interlaboratory Standard Reference Toxicant Program until specific chronic requirements are incorporated into the laboratory certification regulations 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 method specifications (test organism specific) 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 possess certification for the applicable chronic methodologies incorporated by reference through the laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Parts III&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 fifth version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves.

## **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. The Department recommends the use of the 5 standard dilutions plus a dilution water control to cover the entire range of effluent test concentrations e.g. 0%, 6.25%, 12.5%, 25%, 50%, 100%.

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.

### **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 dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 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 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 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 through the completion of a Whole

Effluent toxicity testing methodology questionnaire. 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 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. Unless otherwise specified, three samples shall be collected as specified above, preferably one every other day. The first sample should be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample should be used for the final three renewals. For the *Selenastrum* test, a single sample shall be collected not more than 24 hours prior to test initiation. In no case, shall more than 36 hours' elapse between collection and first use of the sample. 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 may be approved by the Department 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. When a laboratory adjusts a freshwater effluent salinity and the pH of the test concentration changes more than 0.5 pH units from the initial pH, the laboratory shall readjust the pH of the test concentration to within 0.5 pH units of the original test concentration. 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 unless more stringent criteria is required by the method:

- ☐ pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of each test concentration 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 and end 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 and end 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.
- ☐ When natural salt water is used; 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

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.

For point estimate techniques, statistical analysis must follow the protocol contained in the approved testing method. 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 "NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at [http://www.state.nj.us/dep/dwq/pdf/MRF\\_Manual.pdf](http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf) for further information.

If the result reported by the IC<sub>p</sub> method is greater than 100% effluent, the test result is reported as ">100%"

If separate IC<sub>25</sub>'s can be calculated from multiple test endpoints, for example a reproductive and/or growth endpoint and a survival endpoint, the lowest IC<sub>25</sub> value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the IC<sub>25</sub> value for the test. If the IC<sub>25</sub> value for growth and/or reproduction is not lower than that for survival, the 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 the test acceptability criteria of the chronic toxicity method will not be used by the Department for any purpose and must be repeated as soon as practicable, with freshly collected samples.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for chronic 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 samples, not refrigerating samples upon collection, or unapproved pretreatment of an effluent sample.
3. Controls shall meet, at a minimum, 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.
7. If more stringent criteria are required within the chronic toxicity test method or rule, the more stringent criteria must be met.

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<br>0.50 mg (preserved) avg | N/A   |
| <i>Menidia beryllina</i>         | 80%                                   | 0.50 mg (unpreserved) avg<br>0.43 mg (preserved) avg | N/A   |
| <i>Mysidopsis bahia</i>          | 80%                                   | 0.20 mg per mysid avg                                | egg production by 50% of control females if fecundity is used as an endpoint. |

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 must 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 the Department's laboratory certification program prior to obtaining certification for chronic toxicity testing. Certification for the applicable chronic toxicity method must be obtained 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 must be conducted at least once per month for each species/method.
2. Where the laboratory purchases organisms for the conduct of chronic toxicity testing for the test organism in question, the testing laboratory must conduct a concurrent SRT per lot of organisms, unless the supplier provides at least the most recent five monthly SRT's using the same toxicant and control conditions. SRT data provided by the supplier 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 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 monthly 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. If a testing laboratory conducts testing for a species/method less frequently than monthly, then an SRT shall be run concurrent with the toxicity test.

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 twenty tests, the laboratory shall investigate sources of variability, take corrective actions to reduce identified sources of variability, and perform an additional SRT during the same month. 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 twenty test results which are outside the established upper and lower limits for a specific test species, the laboratory shall cease to conduct chronic toxicity tests for compliance purposes for that test species until the reason(s) for the outliers have been resolved. Approval to resume testing may 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**

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 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 biomonitoring program at the address below 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 (including chain of custody documents) for all endpoints analyzed shall be included with the report submitted to the Department. All chronic toxicity test report forms shall be submitted to the following email addresses as applicable:

[biomonitoring@dep.nj.gov](mailto:biomonitoring@dep.nj.gov)

[Toxicity@drbc.gov](mailto:Toxicity@drbc.gov)

In addition, the results of all chronic toxicity tests conducted 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

## VIII. REFERENCES

1. NJPDES Monitoring Report Form Reference Manual October 2007  
[http://www.state.nj.us/dep/dwq/pdf/MRF\\_Manual.pdf](http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf)

2. USEPA. 2002. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-821-R-02-014. October 2002. Third Edition.
3. USEPA. 2002. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA-821-R-02-013. October 2002. Fourth Edition.

**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: \_\_\_\_\_

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

When is retest scheduled to be performed?

**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.