



State of New Jersey

CHRIS CHRISTIE
Governor

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

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

January 31, 2012

To: Distribution List

Re: **Final NEW Discharge to Surface Water (DSW) Consolidated Master General Permit**
Category: BPW -Potable Water Treatment Plant (GP)
NJPDES Permit No. NJ0129500
NJPDES MASTER GENERAL PERMIT PROGRAM INTEREST
Trenton City, Mercer County

Dear Interested Parties:

Enclosed is a **final** New Jersey Pollutant Discharge Elimination System (NJPDES) permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. Notice of the draft action appeared in nine newspapers to represent all applicable New Jersey counties and was published in the Department's October 5, 2011 DEP Bulletin. The public comment period closed on January 18, 2012.

A summary of the significant and relevant comments received on the draft action during the public comment period, the Department's responses, and an explanation of the changes from the draft action have been included in the Response to Comments document attached hereto as per N.J.A.C. 7:14A-15.16. The Department received notice of a few minor errors as well as requests for clarification regarding some specific conditions in the draft master general permit. Any changes from the draft permit have been explained in the footnotes in the Permit Summary Table (PST) attachment for those facilities.

As of this time, individual authorizations will be issued for the following twenty-eight facilities under this consolidated master general permit consistent with the PST attachment included in this document:

#	NJPDES #	Facility	Outfalls
1	NJ0034142	Aberdeen WTP/ NJ American Water	001A (NODI)
2	NJ0034924	Atlantic Highlands WTP	001A
3	NJ0028649	Bordentown Water Plant	001A
4	NJ0025721	Butler Water Department	001A 002A 003A (NODI)
5	NJ0035742	City of Salem WTP	001A 002A (NODI)
6	NJ0098540	Clyde Potts/ Southeast Morris MUA	001A
7	NJ0029190	Freehold Borough WTP	001A
8	NJ0004731	Green Street WTP/ Mt Holly Water Co	001A
9	NJ0035785	Green Pond Road Well Field & Treatment Plant/ Rockaway Twp	001A
10	NJ0031887	Harbor Road WTP/ Marlboro MUA	001A
11	NJ0029548	Hartford Road WTP/ Moorestown	001A
12	NJ0068705	Heron Avenue WTP	001A (NODI)
13	NJ0136603	Morris Lake WTP/ Newton	001A

14	NJ0109266	Mt. Holly Water Company/ Mansfield	001A
15	NJ0025844	National Park WTP	001A
16	NJ0062111	North Jersey District Water Supply Commission	002A 003A
17	NJ0057771	Paulsboro WTP Well #5	001A
18	NJ0026191	Paulsboro WTP Well # 4	001A
19	NJ0063711	Pequannock WTP/ Newark Watershed & Development Corp.	001A 002A (NODI) 003A (NODI) 004A (NODI) 005A
20	NJ0023299	Pureland WTP/ NJ American Water	001A (NODI)
21	NJ0000965	Raritan Millstone WTP/ NJ American Water	001A (NODI) 003A 004A (NODI)
22	NJ0001198	Robert Frost Treatment Facility	001A
23	NJ0025453	Shorelands #1 WTP	001A
24	NJ0025461	Shorelands #2 WTP	001B 002B
25	NJ0064271	Taylortown WTP/ Boonton	001A
26	NJ0035190	Township of North Brunswick WTP/ American Water Services	001A 005A 006A (NODI)
27	NJ0068730	Water Street WTP/ Pennsville Twp	001A
28	NJ0062693	Woodlane WTP/ Mt Holly Township Water Company	001A

The Department intends to issue renewal authorizations for the above facilities where the renewal authorizations will become effective on April 1, 2012. Pursuant to N.J.A.C. 7:14A-2.8., the existing permit conditions will continue to remain in full force and effect until the new permit takes effect on April 1, 2012.

As per N.J.A.C. 7:14A-4.2(e)3, any person planning to continue discharging after the expiration date of an existing NJPDES permit shall file an application for renewal at least 180 calendar days prior to the expiration of the existing permit.

All monitoring shall be conducted in accordance with 1) the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b)4), and/or 2) the method approved by the Department in Part IV of the permit. The Field Sampling Procedures Manual is available at <http://www.nj.gov/dep/srp/guidance/fspm/>.

As a result of this permit action, your monitoring report forms (MRFs) have been created and will be mailed to your current MRF recipient. Beginning the effective date of this permit action, please use the new forms. If these revised forms are not received within 2 weeks, please contact the Office of Permit Management at (609) 984-4428 for copies.

Questions or comments regarding the final action should be addressed to Michele Christopher (Michele.christopher@dep.state.nj.us), Heather Geneivich (heather.geneivich@dep.state.nj.us) or Bela Mankad (bela.mankad@dep.state.nj.us) by email or by phone at (609) 292-4860.

Sincerely,



Pilar Patterson, Chief
Bureau of Surface Water Permitting

cc: Permit Distribution List

Masterfile #: 39609; PI #: 50577

Table of Contents

This consolidated master general permit package contains the following items:

- 1. Cover Letter**
- 2. Table of Contents**
- 3. Response to Comments**
- 4. Permit Summary Tables**
- 5. NJPDES Permit Authorization Page for Master General Permit No. NJ0129500**
- 6. Part I – General Requirements: NJPDES**
- 7. Part II – General Requirements: Discharge Categories**
- 8. Part III – Limits and Monitoring Requirements**
- 9. Part IV – Specific Requirements: Narrative**
- 10. Appendix A: Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program**

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

RESPONSE TO COMMENTS

Comments were received on the NJPDES draft Surface Water Master General Permit New No. NJ0129500 issued on December 19, 2011. The 30 day public comment period started on December 19, 2011 and ended on January 20, 2012. The following person commented during the public comment period:

A. Carol Theresa Storms, Manager- Water Quality and Wastewater, Aqua New Jersey, in a letter dated December 29, 2011.

A summary of the timely and significant comments received, the New Jersey Department of Environmental Protection's (Department) responses to these comments, and an explanation of any changes from the draft action have been included below:

1. COMMENT:

(p17 of 32 of Fact Sheet) Re: Zinc, Total Recoverable: "Aqua concurs that zinc orthophosphate is a common additive for corrosion control but there are many other products on the market besides Klenphos. These products may or may not contain zinc. Monitoring for zinc should only be limited to those facilities that use a zinc-based orthophosphate. Klenzoid makes other products named Klenphos which do not contain Zinc."

RESPONSE:

The Department agrees that monitoring for zinc should only be limited to those facilities that use a zinc based orthophosphate. Each of the permittees were individually contacted and the specific information regarding the types of additives used at each facility was obtained and is listed on the individual Permit Summary Tables (PSTs) in both the pre-draft and the draft permits. At the informational session held on September 16th, 2011, the Department's team asked each permittee to carefully review the PST for their facility and to identify any discrepancies. If the Department has incorrectly stated that a facility is using an additive containing Zinc and subsequently required zinc monitoring, contact the Department as soon as possible so that any changes can be reflected in the final authorization for that facility.

No changes have been made to the Master General Permit with respect to this comment.

2. COMMENT:

(p18 of 32 of Fact Sheet) re: Phosphorus: "Phosphorus is a common additive used in many water systems to control the release of lead and copper into drinking water. The selection of a product is based not only on controlling corrosion but also the need to sequester any remaining iron and /or manganese after treatment. Lead in drinking water causes a variety of adverse health affects, for example, in babies and children, exposure to lead in drinking water can result in delays in physical and mental development. Adults who drink water with high lead levels could develop kidney problems or high blood pressure. The Department should be extremely cautious in setting a WQBEL on phosphorus for those facilities using a phosphate based corrosion inhibitor to meet the USEPA's Lead and Copper Rule. The safety of the water supply and compliance with drinking water standards should be priority."

RESPONSE:

The Department understands the serious health effects that can occur with excess exposure to Lead in the drinking water supply. However, the Department is mandated under State and Federal regulations to protect both drinking water and aquatic uses in our streams and waterways. For this reason, while Lead is regulated under the drinking water program, Phosphorus continues to be also regulated through the NJPDES program. Whenever a chemical is added by an industry, regardless of the intent, it is the mandate of the Clean Water Act to ensure that “no toxics in toxic amounts” are discharged by the permittee. As discussed in the Draft Fact Sheet, in accordance with N.J.A.C. 7:14A-13.6(a) and 13.5(a), a QBEL shall be imposed when the Department has determined that the discharge causes an excursion above the SWQS. At the present time, insufficient data exists to determine the necessity for QBELs. Therefore, in accordance with N.J.A.C. 7:14A-13.5(k)3, the monitoring requirements specified in the PSTs, for the facilities that are adding Phosphorus, have been retained in the Master General Permit.

No changes have been made to this Master General Permit as a result of this comment.

3. COMMENT:

(p26 of 32 of Fact Sheet): Radium 226 and Radium 228: “The consolidated permit should not be the vehicle used to investigate (research) the presence of radionuclides in effluent discharges by the Department. Radiological testing is expensive and increases the costs to utilities and their customers. Using the consolidated permit for investigative purposes is inappropriate.”

RESPONSE:

It is the Department’s responsibility to regulate potential pollutants in wastewater which are discharged to the surface waters of the State. In the draft permit fact sheet, the Department incorrectly stated that there are no New Jersey Surface Water Quality Standards (SWQS) for radionuclides. While these regulations do not specifically state the numeric values for Radium-226 and Radium-228, N.J.A.C. 7:9B-1.14(d)6 states that the criteria for Radioactivity are the “prevailing regulations including all amendments and future supplements thereto adopted by the U.S. Environmental Protection Agency pursuant to Sections 1412, 1445, and 1450 of the Public Health Services Act, as amended by the Safe Drinking Water Act (PL 93-523)”. In other words, the Department is required to regulate radioactivity (in this case, Radium-226 and Radium 228) at the levels defined by the Federal and State Drinking Water Standards, namely 5 PiC/L for the combined total of Radium-226 plus Radium-228.

As discussed in the Fact Sheet, some data exists that indicates that radionuclides are concentrated in “Greensand” filters where groundwater is the source water and therefore the filter backwash from these filters, which is discharged to the receiving water, may in turn contain concentrated radionuclides.

Bordentown WTP is the only facility where monitoring was required in the existing permit and the Department has determined that it is appropriate to maintain the existing quarterly frequency in this permit. For the other four facilities which use “Greensand” filters (Mount Holly/Mansfield, National Park, Robert Frost and Woodlane), the Department has decided to reduce the proposed monitoring frequency to annual in this final permit. If a facility does not discharge during an annual period, the permittee shall indicate “NODI” on the associated Monitoring Report. Therefore, as a result of this comment, the final individual authorizations for these four WTPs will incorporate this annual monitoring frequency. This change has also been noted on the PSTs included with the final permit.

(#1) Aberdeen WTP/ NJ American Water – NJG0034142

Receiving Water: Wilkson Creek

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Chlordane, DDD, DDE, DDT, Enterococci, Mercury, pH, PCBs, Phosphorus

Source Water: Well water

Discharge Frequency: Intermittent (plant has not discharged since 2005 because the supernatant in the lagoons is recycled back to the head of the plant).

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is retained at once per five years.

Additives: Zinc Orthophosphate and Chlorine

001A: filter backwash (using finished water) via two unlined lagoons

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06 – 12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	days/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	NODI	15 MR	15 MR	1/Discharge	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Instant Max.	NODI	10 15	10 15	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR (1) 0.04 (1)	MR (1) 0.04 (1)	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI	1.5 3.0	1.5 3.0	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	NODI	--	MR	1/5 Years (2)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

NODI No Discharge

-- No data available

(1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.

(2) Acute WET monitoring requirement is included on the once per five years WCR form.

(#2) Atlantic Highlands WTP – NJG0034924

Receiving Water: Many Mind Creek

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Chlordane, DDD, DDE, DDT, Mercury, PCBs

Source Water: Well water

Discharge Frequency: Intermittent, almost daily for 30 minutes

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is decreased from annual to once per five years.

Additives: Aluminum sulfate, Chlorine, and Lime

001A: Filter backwash and sludge supernatant from stainless steel storage tanks

Finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.0014 0.0013	MR MR	MR MR	1/6 Months	Metered
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/6 Months	Calculated
pH	s.u.	Instant Min. Instant Max.	6.5 8	6.0 9.0	6.0 9.0	1/6 Months	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	7.88 38	20 40	20 40	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.5 <0.5	MR MR	MR MR	1/6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	3.00 17 39/14	MR MR	MR MR	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (1)	MR	MR	1/5 years (2)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) The Acute WET data is dated 12/4/07 and was included with the renewal application dated 8/12/10.

(2) The Acute WET monitoring frequency is retained at 1/ 5 years and is now included on the once per five years WCR form.

(#3) Bordentown WTP - NJG0028649

Receiving Water: Crosswicks Creek

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Arsenic, Mercury, PCBs, Phosphorus, Turbidity

Source Water: Well water

Discharge Frequency: Intermittent, occurs for 15 minutes varying from every 3 to 8 hours

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is retained at once per five years.

Additives: Chlorine, Potassium Permanganate, Lime and Klenphos

001A: lagoon water consisting of pressure filter backwash
 Finished water is used to backwash the greensand filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.02 0.31	MR MR	MR MR	1/Month	Metered
Duration of Discharge	days/month	Monthly Total	30.44	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	93.7	MR	MR	1/Month	Calculated
pH	s.u.	Instant Min. Instant Max.	6.05 8.8	6.0 9.0	6.0 9.0	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	6.00 30.40	20 40	20 40	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.04 0.09	MR 0.1	MR 0.1	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Copper, Total Recoverable (1)	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	12.11 20.30 16/0	MR MR	MR MR	1/6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.88 5.65 59/0	MR MR	MR MR	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	64 347 59/0	MR MR	MR MR	1/6 Months	Grab
Nickel, Total Recoverable (2)	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	23.71 25.40 16/0	MR MR	MR MR	1/6 Months	Grab
Zinc, Total Recoverable (1)	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	85.09 203.00 16/0	MR MR	MR MR	1/6 Months	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	(3) (3)	MR MR	MR MR	1/Quarter	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	(3) (3)	MR MR	MR MR	1/Quarter	Grab
Radium-226 + Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	(3) (3)	MR MR	MR MR	1/Quarter	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 Years (4)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) Although Copper and Zinc were detected at levels exceeding the SWQS, an accurate assessment of the applicability of WQBELs could not be made due to the lack of sufficient information regarding the available dilution in the receiving stream. Therefore, monitoring requirements are retained in this permit to reevaluate the applicability of WQBELs in the next permit renewal. In the draft Master permit, the Department erroneously specified that these pollutants were not detected above the SWQS and is corrected in this final master permit.
- (2) Nickel was not detected at levels approaching the SWQS. Therefore, WQBELs were not calculated. However, monitoring and reporting requirements have been retained to reevaluate the necessity of WQBELs in the next permit renewal.
- (3) Monitoring and reporting requirements for Radium-226, Radium-228, and Radium-226 + Radium-228 were recently incorporated in a major modification which became effective July 1, 2011 and are retained in this permit.
- (4) Acute WET monitoring requirement is included on the once per five years WCR form.

(#4) Butler Water Department - NJG0025721

Receiving Water: Stone House Brook

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: No known impairment

Source Water: Kakeout Reservoir

Discharge Frequency: **001A:** intermittent **002A:** intermittent; **003A:** To date, NO DISCHARGE thru 003A has yet occurred.

Residuals: Monitoring is included in the groundwater permit.

WCR Parameters: For 001A and 002A, the WCR monitoring frequency is once per 5 years.

Additives: Alum (aluminum sulfate), Lime, Chlorine

001A: backwash from 3 sand filters (using finished water) via two (2) unlined lagoons

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.022 0.068	MR MR	MR MR	1/6 Months	Metered
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	<0.3 7	20 40	20 40	1/6 Months	Grab
pH	s.u.	Instant Min. Instant Max.	6.31 7.76	6.0 9.0	6.0 9.0	1/6 Months	Grab
Temperature	° C	Monthly Avg. Daily Max.	13 24	MR 30	-- --	--	--
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.123 0.14	MR 0.17	MR 0.17	1/6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.14 0.62 16/3	1.5 3.0	1.5 3.0	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (1)	MR	MR	1/5 Years (2)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) WET data consists of one data point (>100% effluent) for this time period.

(2) Acute WET monitoring requirement is included on the once per five years WCR form.

(#4) Butler Water Department - NJG0025721 (continued)

002A: decant water from 2 lined lagoons (which consists of slurry from the iron and suspended solids removal unit).

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.0063 0.032	MR MR	MR MR	1/6 Months	Measured
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	-- --	20 40	20 40	1/6 Months	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	19 30	MR MR	MR MR	1/6 Months	Grab
pH	s.u.	Instant Min. Instant Max.	6.31 7.95	6.0 9.0	6.0 9.0	1/6 Months	Grab
Temperature	°C	Monthly Avg. Daily Max.	12.9 23.2	MR 30	-- --	--	--
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.299 1.31	1.5 3.0	1.5 3.0	1/6 Months	Grab
Acute WET, LC50 (<i>ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 Years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Acute WET monitoring requirement is included on the once per five years WCR form.

003A : overflow from (2) potable water storage tanks.
 (NO DISCHARGE has occurred to date)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/ Discharge	Measured
Duration of Flow	days/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Temperature	°C.	Monthly Avg. Daily Max.	NODI	MR 30	-- --	--	--
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(#5) City of Salem - NJG0035742

Receiving Water: Unnamed tributary to Keasbeys Creek

Receiving Water Classification: FW2-NT/SE1

Water Quality Impairments: PCBs

Source Water: Laurel Lake

Discharge Frequency: Intermittent, filters are backwashed almost everyday, but not always, depending on need; discharge duration is 12 hours each time.

Residuals: Monitoring is included in this permit.

WCR Parameters: For 001A, the WCR monitoring frequencies for metals and volatiles are retained at once per six months, and the monitoring frequencies for the acids, base-neutrals and pesticides are reduced to once per five years.

Additives: Klenphos (zinc orthophosphate), Chlorine

001A (Main Outfall): filter backwash & clarifier blowdown via 2 settling lagoons
 Finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.02 0.02	MR MR	MR MR	1/Month	Measured
Duration of Discharge	days/month	Monthly Total (1)	12 (2)	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total (1)	0.02	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	2.75 9.5	20 40	20 40	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.0 8.6	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	84.6 (3)	MR	MR	1/5 Years (4)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) Based on the existing permit requirements, wastewater data for Duration of Discharge and Total Flow were reported as "Monthly Averages," instead of Monthly Total, as required in this permit.
- (2) Based on the existing permit requirements, wastewater data for Duration of Discharge was reported in "# of hours," instead of days/month as required in this permit.
- (3) Acute WET data consisted of three data values of LC50>100% reported on the DMRs for 2/08, 4/09, 4/10 and one data value of LC50 = 84.6% reported on the DMR for 5/07.
- (4) The 1/5 years Acute WET monitoring requirement is included on the semi-annual WCR form during the Interim Phase.

(#5) City of Salem - NJG0035742 (continued)

002A (1): Filter Backwash & Clarifier Blowdown via 2 settling lagoons
 No discharge, only used when Lagoon #1 is out of service to be cleaned.
 Finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	days/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	--	--	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	--	--	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	--	--	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(1) Based on information provided by the permittee, a monitoring requirement for the WCR parameters is not included at this outfall and the monitoring frequency for the DMR is specified at 1/Discharge. Please contact the Department if the operations at the WTP necessitate the use of this outfall on a more frequent basis.

(#6) Clyde Potts/Southeast Morris MUA – NJG0098540

Receiving Water: 001A to Harmony Brook
Receiving Water Classification: FW2-TP (C1)
Water Quality Impairments: No known impairment
Source Water: Clyde Potts Reservoir
Discharge Frequency: Continuous
Residuals: Monitoring is included in a groundwater permit.
WCR Parameters: This monitoring frequency is established at once per year.
Additives: Not applicable (finished water is not discharged).

001A: Wastewater generated during the chemical cleaning cycle of the membrane filters, stormwater, overflow from the Clyde Potts Reservoir, diverted stream flow and seepage water from the Reservoir toe drains and filter blankets
 Mid-process water is used to clean membrane filters before the addition of additives.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.015 0.092	MR MR	MR	1/Quarter	Measured
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Quarter	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Quarter	Calculated
pH	s.u.	Instant Min. Instant Max.	6.3 8.1	6.0 9.0	6.0 9.0	1/Quarter	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	7 18	20 50	20 25	1/Quarter	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	23 35	MR 50	MR 50	1/Quarter	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	13 13	10 15	10 15	1/Quarter	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.1 <0.1	MR 0.051 (1)	MR 0.051 (1)	1/Quarter	Grab
Chronic WET, IC25 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	31.4 (2)	21	MR	1/Year (3)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (2) Chronic WET data consists of 19 data points as follows: (3/06) >100%, (6/06) >100%, (9/06) >100%, (12/06) >100%, (3/07) >100%, (6/07) >100%, (9/07) >100%, (12/07) >100%, (3/08) >100%, (6/08) >100%, (9/08) >100%, (12/08) >100%, (3/09) >100%, (6/09) 89.4%, (9/09) 31.4%, (12/09) >100%, (3/10) >100%, (6/10) >100%, (9/10) >100%.
- (3) Chronic WET monitoring requirement is included on the annual WCR form.

002A discharges to the Clyde Potts Reservoir, but this discharge does not include monitoring requirements because the discharge consists of unfiltered and physically filtered reservoir water withdrawn from the Clyde Potts Reservoir and returned directly to the reservoir with no addition of pollutants.

(#7) Freehold Borough WTP - NJG0029190

Receiving Water: McGellaird's Brook

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: No known impairment

Source Water: Well water

Discharge Frequency: Intermittent (1-2 times a year, 4-6 days each time)

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is retained at once per year.

Additives: Lime, Sodium Hypochlorite, Fluoride, Polyphosphate (does not contain any zinc)

001A: backwash resulting from dewatering iron sludge from sludge drying beds
 Finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.0036 0.012	MR MR	MR MR	1/Discharge	Calculated (1)
Duration of Discharge	days/month	Monthly Total	5	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	0.024	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	<1 <1	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	6.8 7.8	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	<0.1 <1	MR MR	MR MR	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.06 0.08 3/4	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (2)	MR	MR	1/5 Years	Composite
Acute WET, LC50 (<i>Pimephales promelas</i>)	% effluent	Minimum	>100 (2)	MR	--	--	--

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) Flow is calculated by equating the square footage of the sludge drying bed and measuring the distance it falls in a 24 hour period.
- (2) Acute WET data consisted of one data value of LC50>100% for each test species as reported on the annual WCR for the time period of 6/09 – 5/10.

(#8) Green Street WTP/Mt Holly Water Company - NJG0004731

Receiving Water: North Branch of Rancocas Creek
Receiving Water Classification: FW2-NT (C2)
Water Quality Impairments: Arsenic, PCBs, Phosphorus
Source Water: Well water
Discharge Frequency: Intermittent (2 times a week; discharge duration is approximately 3 hours each time)
Residuals: Monitoring is included in this permit.
WCR Parameters: This monitoring frequency is retained at once per five years.
Additives: Sodium Hypochlorite, Caustic soda, Zinc Phosphate

001A: Filter Backwash via lagoon
 Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.05 0.05	MR MR	MR MR	1/Month	Measured
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	3.67 26	20 40	20 40	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	7.1 7.8	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.006 0.05	MR MR	MR MR	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.05 2.96 60/0	1.5 3.0	1.5 3.0	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (1)	MR	MR	1/5 years (3)	Composite
Chronic WET, IC25 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	11.9 (2)	MR	--	--	--

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) Acute WET data consisted of 9 data values of LC50>100% reported on the DMRs for 6/07, 10/07, 2/08, 8/08, 2/09, 8/09, 9/09, 3/10, and 8/10.
- (2) Chronic WET data consisted of seven data values of IC25>100% reported on the DMRs for 2/08, 8/08, 2/09, 8/09, 9/09, 3/10, and 8/10; one data value of 69.5 reported on the DMR for 10/07; and one data value of 11.9% reported on the DMR for 6/07.
- (3) Acute WET monitoring requirement is included on the once per five years WCR form.

(#9) Green Pond Road Well Field & Treatment Plant/ Rockaway Twp. - NJG0035785

Receiving Water: White Meadow Brook

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Mercury, pH

Source Water: Well water

Discharge Frequency: GAC filters are used as backup to primary treatment of air stripping; therefore, the discharge is intermittent in nature (No discharge since 1989).

Residuals: Monitoring is not included in this permit.

WCR Parameters: The monitoring frequency is retained at once per five years.

Additives: Chlorine, Polyphosphate

001A: GAC Filters Backwash

Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR	1/Discharge	Metered
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	NODI	MR 50	MR 50	1/Discharge	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Instant Max.	NODI	10 15	10 15	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 Years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(1) Acute WET monitoring requirement is included on the WCR form at a frequency of once per five years.

(#10) Harbor Road WTP/Marlboro MUA – NJG0031887

Receiving Water: Deep Run

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Dissolved Oxygen

Source Water: Well water

Discharge Frequency: Intermittent, discharged every month (1-52 times/month) between 2/06-9/10, lasting approximately 40 minutes each time.

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is reduced to once per five years.

Additives: Lime

001A: Filter backwash via lagoons
 Raw water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 2/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.01 0.01	MR MR	MR MR	1/Month	Calculated (1)
Duration of Discharge	days/month (2)	Monthly Total	22 (1)	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total.	0.29	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	9 33	20 40	20 40	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.1 7.98	6.0 9.0	6.0 9.0	1/Month	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	35 68	MR MR	MR MR	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	14 194 51/1	MR MR	MR MR	1/6 months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	6 (3)	MR	MR	1/5 Years (4)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Flow is calculated using the pumping rate of the filter backwash pumps.

(2) Duration of Discharge was reported as the actual number of times discharge occurred in a month, which could be up to 2 times a day in the summer months. The data ranged from a minimum of 1 discharge a month to a maximum of 52 discharges a month.

(3) Acute WET data consisted of 3 data values of LC50 = 6, 93.3 and >100 reported on the Annual WCRs for the time periods of 5/07 to 4/10.

(4) Acute WET monitoring requirement is included on the once per five years WCR form.

(#11) Hartford Road WTP/ Moorestown – NJG0029548

Receiving Water: Kendles Run

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: PCBs

Source Water: Well water

Discharge Frequency: Intermittent, Backup Plant, discharged once in 8/09

Residuals: Monitoring is included in this permit

WCR Parameters: This monitoring frequency is reduced to once per five years.

Additives: Lime, Chlorine

001A: Filter Backwash, Floor Drain in the Lime Room, and 4 sump pumps via lagoons and storm sewer
 Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.328 0.66	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	days/month	Monthly Total	3	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	0.983	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	<5 <5	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	8.61 8.61	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	-- --	MR 0.1	MR 0.1	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.49 0.49 1/0	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 Years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Acute WET monitoring requirement is included on the WCR form at a frequency of once per five years.

(#12) Heron Avenue WTP – NJG0068705

Receiving Water: Delaware River Zone 5

Receiving Water Classification: Zone 5

Water Quality Impairments: PCBs

Source Water: Well water: wells #3 & #6

Discharge Frequency: Backup plant, no discharge since February 2002.

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is reduced to once per five years.

Additives: Zinc Orthophosphate, Chlorine (gas), Sodium Hypochlorite, Lime, Aluminum Sulfate, polymers

**001B: Filter backwash (using finished water) & clarifier blowdown
 (to 2 unlined lagoons & then recycled to head of plant)**

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR	MR	1/Discharge	Measured
Duration of Discharge	days/month	Monthly Total	NODI	--	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	NODI	--	MR	1/Discharge	Calculated
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg.	NODI	-- --	MR MR	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Daily Max	NODI	-- --	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max	-- --	-- --	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (2) (<i>Mysidopsis bahia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No discharge

(1) Acute WET monitoring requirement is included on the once per five years WCR form.

(2) The draft master general permit erroneously included Acute WET as NOAEC. This was a typographical error and has been corrected here and in the individual authorization.

(#13) Morris Lake WTP – NJG0136603

Receiving Water: Morris Lake

Receiving Water Classification: FW2-NT (C1)

Water Quality Impairments: No known impairment

Source Water: Morris Lake

Discharge Frequency: Almost continuous (daily 2-3 batches/ hour @ ~1400 gallons/ batch)

Residuals: Monitoring is not included in this permit.

WCR Parameters: This monitoring frequency is retained at once per six months.

Additives: Sodium Hypochlorite and Sodium Bisulfite, Zinc Orthophosphate, Hydrofluorosilicic Acid, Sodium Carbonate

001A: membrane filter backwash and self cleaner backwash (using finished water)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.094 0.158	MR MR	MR MR	1/Month	Metered
Duration of Discharge	days/ month	Monthly Total	-- --	-- --	MR MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	-- --	-- --	MR MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	11 30	MR 20	20 40	1/Month	Grab
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	5.3 12.2	15 MR	15 MR	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.5 7.2	6.5 8.5	6.5 8.5	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	2.6 7.2	10 15	10 15	1/Month	Grab
Temperature	°C	Monthly Avg. Daily Max.	9 12.5	MR MR	-- --	--	--
Copper, Total Recoverable	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	45.5 (1) 47 (1) 2/16	MR (2) MR (2)	MR MR	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	<0.1 <0.1 0/25	MR (3) 0.018 (3)	MR (3) 0.018 (3)	1/Month	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/ 6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/ 6 Months	Grab
Chronic WET IC25 (<i>Pimephales promelas</i>)	% effluent	Minimum	42.7 (4)	73	61	1/ 6 Months	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) Effluent data for Copper includes 18 data values from the time period of March 2008 to July 2011.
- (2) The existing permit renewal, which became effective on May 1, 2010, specifies a daily maximum limitation of 14 ug/L for Copper, which was to become effective in the Final Phase on April 1, 2015. Only monitoring requirements were included in the Interim Phase, which is the time period of May 1, 2010 to March 31, 2015. This limitation has not been retained in the General Permit, as discussed in the toxics section 6B.14.
- (3) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (4) The last 9 data points include 4 non detectable values (>100) on 3/31/06, 12/31/06, 3/31/07, and 6/30/07 and 5 detectable values on 6/30/06 (79.5 % effluent), 9/30/06 (82.7 % effluent), 9/30/07 (42.7 % effluent), 12/31/07 (69.2 % effluent), and 3/31/08 (69.2 % effluent).

(#14) Mount Holly Water Company/ Mansfield – NJG0109266

Receiving Water: Unnamed tributary to Craft’s Creek
Receiving Water Classification: FW2-NT (C2)
Water Quality Impairments: Arsenic, PCBs
Source Water: Well water
Discharge Frequency: Intermittent (no discharge since September 2006)
Residuals: Monitoring requirements are included in the groundwater permit.
WCR Parameters: This monitoring frequency is retained at once per five years.
Additives: Zinc Orthophosphate, Chlorine

001A: well blow-offs from four supply wells, sand drying bed underdrains, finished water tank emergency overflow, greensand filter backwash, and stormwater

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.01 0.01	MR MR	MR MR	1/Discharge	Metered
Duration of Discharge	days/month	Monthly Total	--	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	MR	MR	1/Discharge	Calculated
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	0.48 8.39	25 MR	25 MR	1/Discharge	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	2.635 29	MR 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	6.9 7.6	6.5 8.5	6.5 8.5	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.05 <0.05	MR 0.018 (1)	MR 0.018 (1)	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect/ # non-detect	1.72 45.4 10/0	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	MR MR	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	MR MR	MR MR	1/Discharge	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (2)	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (2)	Grab
Radium-226 & Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (2)	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 Years (3)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
 -- No data available

- (1) There is no enforceable quantification level included for monthly average. However, the permittee is required to monitor and report the monthly averages. The permittee shall comply with the enforceable quantification level of 0.1 mg/L as a daily maximum concentration.
- (2) The monitoring frequencies for Radium-226 & Radium-228, and the total of the two parameters, have been modified from the Draft master general permit to annual in this Final master general permit and in the individual authorization.
- (3) Acute WET monitoring requirement is included on the once per five years WCR form.

(#15) National Park – NJG0025844

Receiving Water: Hessian Run

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: PCBs, pH

Source Water: Well water

Discharge Frequency: intermittent, discharges backwash from 2 filters 2 times/day, for 5 to 10 minutes per day.

Residuals: Monitoring is not included in this permit.

WCR Parameters: This monitoring frequency for metals is retained at once per year and the monitoring frequency for acids, base neutrals and pesticides is retained at once per five years.

Additives: Chlorine gas

001A: Greensand filter backwash (using finished water)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.030 0.24	MR	MR	1/Month	Metered
Duration of Discharge (1)	days/month	Monthly Total	29	MR	MR	1/Month	Calculated
Total Flow	Million gallons/month	Monthly Total	0.812	MR	MR	1/Month	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	14 24	MR 50	MR 50	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	13 38	20 40	20 40	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.3 7.7	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.15 0.44	MR 0.02	MR (2) 0.02 (2)	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/ 6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/ 6 Months	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (3)	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (3)	Grab
Radium-226 + Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (3)	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 Years (4)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) The facility reports 656 (daily) discharges during this time frame, with an average of 29 days per month, over 23 months of data.

(2) There is no enforceable quantification level included for monthly average. However, the permittee is required to monitor and report the monthly averages. The permittee shall comply with the enforceable quantification level of 0.1 mg/L as a daily maximum concentration.

(3) The monitoring frequencies for Radium-226 & Radium-228, and the Total of Radium 226 & 228 have been reduced from the draft master permit to annual in this final master permit and in the individual authorization. These parameters will be included on the annual WCR.

(4) Acute WET monitoring requirement is included on the once per five years WCR form.

(#16) North Jersey District Water Supply Commission (NJDWSC) – NJG0062111

Receiving Water: Wanaque Reservoir

Receiving Water Classification: FW2-TM (C1)

Water Quality Impairments: Dissolved Oxygen, E.Coli, Mercury, Temperature

Source Water: Wanaque Reservoir

Discharge Frequency: Once per day for 6 to 12 hours

Residuals: Monitoring is included in a residuals permit.

WCR Parameters: This monitoring frequency is increased from annual to once per six months at outfalls 002A and 003A.

Additives: Hypochlorite, Aluminum based coagulant, Polymer, Permanganate (used infrequently)

002A: Lagoon overflow consisting of residual (sludge) side streams from settling basins and the backwashing of filters (filter backwash is recycled back to head of plant).

Filters are backwashed with filtered water before the final application of chlorine and lime.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.60 2.43	MR MR	MR MR	MR MR	1/Month	Estimated
Duration of Discharge	days/month	Monthly Total	--	--	MR MR	MR MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR MR	MR MR	1/Month	Calculated
pH	s.u.	Instant Min. Instant Max.	6.01 7.37	6.0 9.0	6.0 9.0	6.0 9.0	1/Month	Grab
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	12 36	25 MR	25 MR	25 MR	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	12 27	20 40	20 25	20 25	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.05 0.10	MR MR	MR MR	MR MR	1/Month	Grab
Chloroform	µg/L	Monthly Avg. Daily Max.	113 335	MR 68	MR 68	MR 68	1/Month	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	1/6 Months	Grab
Chronic Toxicity, IC25 <i>Ceriodaphnia dubia</i>	% effluent	Minimum	1.9 (1)	MR	MR	55	1/6 Months	Composite
Chronic Toxicity, IC25 <i>Pimephales promelas</i>	% effluent	Minimum	14.5 (2)	MR	--	--	--	--

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) The initial phase was inadvertently omitted from the PST in the draft permit. This typographical error has been corrected in this final permit. The Initial Phase limitations and monitoring requirements are applicable from the Effective Date of the Permit (EDP) to EDP + 36 months. The Final Phase limitations and monitoring requirements are applicable on the EDP + 37th month (when the new Chronic WET limitation becomes effective).
- (2) Chronic WET data using the species *Ceriodaphnia dubia* consists of the following data points: 2/06 (8.5%), 8/06 (53.6%), 9/06 (6.1%), 3/07 (72.6%), 12/07 (2.72%), 3/08 (17.3%), 10/08 (7.8%), 3/09 (10.9%), 12/09 (1.9%), 6/10 (20.1%), 9/10 (27.9%).
- (3) Chronic WET data using the species *Pimephales promelas* consists of the following data points: 2/06 (100%), 8/06 (47%), 9/06 (65.3%), 3/07 (61.6%), 12/07 (52.6%), 6/08 (81.1%), 10/08 (14.5%), 3/09 (66.6%), 12/09 (50%).

(#16) North Jersey District Water Supply Commission – NJG0062111 (continued)

Receiving water: Unnamed tributary to Posts Brook

Stream Classification: FW2-NT (C2)

Water Quality Impairments: None

003A: lagoon overflow consisting of residual (sludge) side streams from settling basins and the backwashing of filters

Filters are backwashed with finished water before the final application of chlorine and lime.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.012 1.04	MR MR	MR MR	MR MR	1/Month	Estimated
Duration of Discharge	days/month	Monthly Total	--	--	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	MR	1/Month	Calculated
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	7.36 11.80	25 MR	25 MR	25 MR	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	10.68 26	20 40	20 40	20 40	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.04 0.09	MR MR	MR MR	MR MR	1/Month	Grab
Chloroform	µg/L	Monthly Avg. Daily Max.	0.02 0.38	MR MR	MR MR	MR MR	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.01 6.87	6.0 9.0	6.0 9.0	6.0 9.0	1/Month	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	1/6 Months	Grab
Chronic Toxicity, IC25 <i>Ceriodaphnia dubia</i>	% effluent	Minimum	2.8 (2)	MR	MR	55	1/ 6 Months	Composite
Chronic Toxicity, IC25 <i>Pimephales promelas</i>	% effluent	Minimum	23.8 (3)	MR	--	--	--	--

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) The initial phase was inadvertently omitted from the PST in the draft permit. This typographical error has been corrected in this final permit. The Initial Phase limitations and monitoring requirements are applicable from the Effective Date of the Permit (EDP) to EDP + 36 months. The Final Phase limitations and monitoring requirements are applicable on the EDP + 37th month (when the new Chronic WET limitation becomes effective).
- (2) Chronic WET data using the species *Ceriodaphnia dubia* consists of the following data points: 2/06 (11.2%), 8/06 (17.5%), 9/06 (4.2%), 3/07 (22.8%), 12/07 (5.13%), 6/08 (17.1%), 10/08 (30.9%) 3/09 (10.3%), 12/09 (2.8%), 6/10 (21.5%), 9/10 (18.6%).
- (3) Chronic WET data using the species *Pimephales promelas* consists of the following data points: 2/06 (54.2%), 8/06 (89.1%), 9/06 (56.6%), 3/07 (58.2%), 12/07 (27%), 6/08 (65%), 10/08 (32.8%), 3/09 (62.4%), 12/09 (23.8%)

(#17) Paulsboro WTP Well #5 – NJG0057771

Receiving Water: Mantua Creek via a publicly owned storm sewer

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: PCBs

Source Water: Well water (#5)

Discharge Frequency: Backup plant with an intermittent discharge. When the plant operates (maximum of 3 months/year), backwash is discharged (~30,000 gallons/ cycle) for only 1 or 2 days/month.

Residuals: Monitoring is not included in this permit.

WCR Parameters: This monitoring frequency is retained at once per five years.

Additives: Lime, Sodium Hypochlorite

002A: Sand Filter Backwash (using finished water)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.0013 0.03	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge (1)	days /month	Monthly Total	1/2 11	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	0.0375	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	7 14	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	7.0 7.6	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max # Detect/ # Non Detect	0.08 0.1 4/4	MR MR	MR MR	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	1.7 3.8	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	(2)	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) The discharge duration was 1 to 2 days for each of the 8 sampling events, with a total of 11 days from 1/1/06-12/31/10.

(2) The DMR information for Acute WET indicated “no discharge” for the 8 sampling events when backwash water was discharged. The existing permit required Acute WET to be sampled “once per permit cycle.” During monitoring periods when sampling is not required, a “sample not required this monitoring period” indicator (Code=N) should be entered on those DMR’s rather than NODI, and sampling should be conducted during the monitoring periods when it is required.

(3) Acute WET monitoring requirement is included on the once per five years WCR form.

(#18) Paulsboro WTP Well #4 – NJG0026191

Receiving Water: Clonmell Creek via publicly owned storm sewer

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: None

Source Water: Well water (#4)

Discharge Frequency: Backup plant with an intermittent discharge. When the plant operates (maximum of 3 months/year), the backwash is discharged for only 1 or 2 days/ month. However, in the last 5 years, the plant discharged only 4 days.

Residuals: Monitoring is not included in this permit.

WCR Parameters: This monitoring frequency is retained at once per five years.

Additives: Lime, Sodium Hypochlorite.

001A: Sand filter backwash (using finished water)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.00095 0.03	MR	MR	1/Discharge	Measured
Duration of Discharge (1)	days/month	Monthly Total	2	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	0.03	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	14 18	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	7.3 7.5	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.1 0.12	MR MR	MR MR	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	2.2 2.8	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>) (2)	% effluent	Minimum	(2)	MR	MR	1/5 Years (3)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Only discharged 4 days from 1/1/06-12/31/10.

(2) The DMR information for the parameter, Acute WET, indicated “no discharge” for the 8 sampling events when backwash water was discharged. The existing permit required Acute WET to be sampled “once per permit cycle”.

(3) Acute WET monitoring requirement is included on the once per five years WCR form and sampling shall occur at the first discharge, if one occurs.

(#19) Pequannock WTP/ Newark Watershed & Development – NJG0063711

Receiving Water: DSN001A discharges to the Charlotteburg Reservoir; DSN002A- DSN005A discharge to the Pequannock River

Receiving Water Classification: Charlotteburg Reservoir- FW2-TM (C1); Pequannock River - FW2-TP (C1)

Water Quality Impairments: Pequannock River – Dissolved Oxygen, Mercury

Source Water: Charlotteburg Reservoir

Discharge Frequency: 001A varies depending on rainfall; 002A NODI, 003A NODI, 004A NODI, 005A every 6 hours (~1025 gpd)

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is established at once per five years for 005A only.

Additives: Aluminum Sulfate, Liquefied Chlorine, Polyaluminum Chloride, Lime, Sodium Silicate, Polymers

001A: Emergency overflow of supernatant from the sludge lagoon

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.107 0.15	MR MR	MR MR	1/6 Months	Measured
Duration of Discharge	days/month	Monthly Total	--	MR MR	MR MR	1/6 Months	Calculated
Total Flow	million gallons/month	Monthly Total	--	MR MR	MR MR	1/6 Months	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	10 20	20 25	20 25	1/6 Months	Grab
pH	s.u.	Instant Min. Instant Max.	6.1 6.6	6.0 9.0	6.0 9.0	1/6 Months	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	1.4 2.1	10 15	10 15	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0 0 0/7	MR (1) 0.01 (1)	MR (1) 0.01 (1)	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.

(#19) Pequannock WTP/ Newark Watershed & Development – NJG0063711 continued

INACTIVE 002A: Emergency overflow from the coagulation tank

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Average Daily Max	NODI	MR MR	MR MR	1/Discharge	Metered
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 25	20 25	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI	10 15	10 15	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR (1) 0.01 (1)	MR (1) 0.01 (1)	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	--	MR	1/Discharge (2)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.

(2) The monitoring frequency is once per 5 years, if there is a discharge.

INACTIVE 003A: Emergency overflow from the clearwell

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Average Daily Max	NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	days /month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 25	20 25	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI	10 15	10 15	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR (1) 0.01 (1)	MR (1) 0.01 (1)	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	--	MR	1/Discharge (2)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.

(2) The monitoring frequency is once per 5 years, if there is a discharge.

(#19) Pequannock WTP/ Newark Watershed & Development – NJG0063711 continued

INACTIVE 004A: Emergency overflow from the “wastewater” holding tanks

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Average Daily Max	NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	days /month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons /month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 25	20 25	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI	10 15	10 15	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR (1) 0.01 (1)	MR (1) 0.01 (1)	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	--	MR	1/ Discharge	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

- (1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.

005A: Screen backwash (every 6 hours) using raw water

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Average Daily Max	0.0025 0.0025	MR MR	MR MR	1/Month	Metered
Duration of Discharge	days /month	Monthly Total	--	--	MR	1/Month	Calculated
Total Flow	million gallons /month	Monthly Total	--	--	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	4.5 20	20 25	20 25	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.0 7.3	6.0 9.0	6.0 9.0	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	<5 <5	10 15	10 15	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0 0	MR (1) 0.01 (1)	MR (1) 0.01 (1)	1/Month	Grab
Chronic WET IC25 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (2)	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.

- (2) All 5 data points from samples collected during this last permit cycle are all >100 % effluent.

(#20) Pureland WTP/ NJ American Water – NJG0023299

Receiving Water: Wetlands to unnamed tributary to Raccoon Creek.

Receiving Water Classification: FW2-NT/ SE2

Water Quality Impairments: Phosphorus, TSS

Source Water: Well water (Raritan Formation)

Discharge Frequency: Intermittent, currently the facility is not in use.

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is retained at once per five years.

Additives: Not applicable as raw water (pre chemical addition) is used to backwash.

001A: Ion exchange backwash (using raw well water & stormwater)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Metered
Duration of Discharge	days /month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons /month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Mysidopsis bahia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(1) Acute WET monitoring requirement is included on the once per five years WCR form.

(#21) Raritan Millstone WTP/ American Water – NJG0000965

Receiving Water: Raritan River via a ditch

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Arsenic, Benzene, Mercury, Phosphorus, TSS

Source Water: Raritan River

Discharge Frequency: 001A has not discharged since 2002 and 003A discharges intermittently.

Residuals: Monitoring is included in a residuals permit.

WCR Parameters: This monitoring frequency is for 003A only and is retained at once per year.

Additives: Sodium Hypochlorite, Aluminum Sulfate, Fluoride, Phosphoric Acid, Sulfuric Acid, Polymers, Potassium Permanganate

001A: Emergency bypass from 2 concrete basins; no discharge since 2002

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	days/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI	2000 4000	2000 4000	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

NODI No Discharge

003A: Screen spray backwash (using raw river water and city water), 10 minute cycle performed once every one to two weeks in the summer and two to three times per day in the winter.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.05 0.05	MR MR	MR MR	1/Month	Metered
Duration of Discharge	days/month	Monthly Total	30	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	1.5	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	5.4 20	20 40	20 40	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.3 0.8	MR MR	MR MR	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	7.4 8.6	6.0 9.0	6.0 9.0	1/Month	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	310 3800 56/2	2000 4000	2000 4000	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	0.6 1.4	MR MR	MR MR	1/Month	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (1)	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

(1) Recently renewed permit. Only one data point available: >100 % effluent.

(#21) Raritan Millstone WTP/ American Water – NJG0000965 (continued)

004A: Filter backwash, only if not recycled then back thru the treatment process.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Metered
Duration of Discharge	days/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI	2000 4000	2000 4000	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
 NODI No Discharge

(#22) Robert Frost Treatment Facility (Well #10) – NJG0001198

Receiving Water: Pond Run

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: TSS, Turbidity

Source Water: Well water

Discharge Frequency: Intermittent, occurs once per day to once per three days and lasts one to three hours

Residuals: Monitoring is included in the groundwater permit

WCR Parameters: This monitoring frequency is increased to once per six months.

Additives: Hypochlorite, Fluoride, Polyphosphate, and Potassium permanganate

001A: filter backwash

Finished water is used to backwash greensand filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.04 0.41	MR MR	MR MR	MR MR	1/Month	Measured
Duration of Discharge	days/month	Monthly Total	--	--	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	MR	1/Month	Calculated
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	2.3 9.7	25 MR	25 MR	25 MR	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	2.3 13	20 40	20 40	20 40	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.02 8.48	6.0 9.0	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.1 <0.1	MR 0.018 (2)	MR 0.018 (2)	MR 0.018 (2)	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	0.09 0.25	MR MR	MR MR	MR MR	1/ 6 Months	Grab
Copper, Total Recoverable	µg/L	Monthly Avg. Daily Max. # detect/ # non-detect	10 17 2/12	MR MR	MR MR	MR MR	1/ 6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	1/ 6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	1/ 6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max. # detect/ # non-detect	27 40 3/11	MR MR	MR MR	MR MR	1/ 6 Months	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	Annual (3)	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	Annual (3)	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	MR MR	Annual (3)	Grab
Chronic WET, IC25 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	2.1 (4)	MR	--	--	--	--
NOAEC (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	--	MR	100	1/ 6 Months	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) The initial limit column to illustrate the 3 year compliance schedule for WET was erroneously left out of the draft master permit PST. The Final Permit Authorization will include this initial phase.
- (2) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (3) The monitoring frequencies for Radium-226 & Radium-228 and the Total, have been reduced from the draft master permit to annual in this final master permit and in the individual authorization.
- (4) Chronic WET data using the species *Ceriodaphnia dubia* consists of the following data points: 5/06 (100%), 6/06 (>100%), 8/06 (41.6%), 3/07 (2.1%), 9/07 (17.9%), 12/07 (>100%), 6/08 (80%), 9/08 (>100%), 5/09 (>100%), 12/09 (>100%), 6/10 (75%), 12/10 (>100%).

(#23) Shorelands #1 WTP – NJG0025453

Receiving Water: East Creek

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Chlordane, DDD, DDE, DDT, Enterococci, Mercury, PCBs

Source Water: Well water

Discharge Frequency: Intermittent (discharged once in 10/06), supernatant from lagoons containing filter backwash is usually returned to the head of the plant.

Residuals: Monitoring is included in this permit

WCR Parameters: This monitoring frequency is retained at once per five years.

Additives: Sodium Hypochlorite, Sodium Hydroxide, Stern Pac (Aluminum Sulfate), Zinc Orthophosphate

001B: supernatant from lagoons containing filter backwash
 Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.07 0.07	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	days/month	Monthly Total	--	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	4.33 6	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	6.82 6.98	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.027 0.04	MR MR	MR MR	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.71 1.65 1/0	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # detect / # non-detect	17 26 1/0	MR MR	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Acute WET monitoring requirement is included on the WCR form at a frequency of once per five years.

(#24) Shorelands #2 WTP - NJG0025461

Receiving Water: East Creek

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Chlordane, DDD, DDE, DDT, Enterococci, Mercury, PCBs

Source Water: Well water

Discharge Frequency: Intermittent (discharged during 11 months between 4/06 and 11/07), filter backwash is usually returned to the head of the plant.

Residuals: Monitoring is included in this permit

WCR Parameters: The monitoring frequencies for 001B & 002B are retained at once per five years.

Additives: Sodium Hypochlorite, Lime, Stern Pac (Aluminum Sulfate), Zinc Orthophosphate

001B: Filter Backwash and Clarifier Blowdown via lagoons
 Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.035 0.05	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	days/month	Monthly Total	--	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	4.42 8	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	6.7 7.97	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.025 0.05	MR 0.09 (1)	MR 0.09 (1)	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.49 0.90 11/11	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/5 years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (2) Acute WET monitoring requirement is included on the WCR form at a frequency of once per five years.

(#24) Shorelands #2 WTP - NJG0025461 (continued)

002B: Water from drainage pipes underlying sludge drying beds is usually recycled to the head of the plant; therefore, discharge is intermittent in nature (discharged during 8 months between 1/06 and 9/10).

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.001 0.005	MR MR	MR MR	1/6 months	Calculated
Duration of Discharge	days/month	Monthly Total	27	MR	MR	1/6 months	Calculated
Total Flow	million gallons/month	Monthly Total	0.027	MR	MR	1/6 months	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	5.33 6	20 40	20 40	1/6 months	Grab
pH	s.u.	Instant Min. Instant Max.	7.0 7.8	6.0 9.0	6.0 9.0	1/6 months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.03 0.04	MR 1.27	MR 1.27	1/6 months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # detect / # non-detect	0.349 0.748 5/3	MR MR	MR MR	1/6 months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	%	Minimum	--	MR	MR	1/5 years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Acute WET monitoring requirement is included on the WCR form at a frequency of once per five years.

(#25) Taylortown WTP/ Boonton - NJG0064271

Receiving Water: North Valhalla Brook via publicly owned storm sewer

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: No known impairment

Water Source: Boonton Reservoir

Discharge Frequency: Intermittent; (1)GAC filter backwash (24,000 gpd in ~8 minutes, 1 time/day; (2) potential emergency bypass of reservoir water; (3) clearwell overflow (highly unlikely)

Residuals: Monitoring is included in this permit.

WCR Parameters: The monitoring frequency for metals is retained at once per year and the monitoring frequency for acids, base neutrals, volatiles and pesticides is retained at once per five years.

Additives: Orthophosphate, Aluminum Sulfate, Chlorine (gas & tablets)

001A: GAC filter backwash (using finished water), possible emergency bypass of reservoir water, & possible clearwell overflow

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	(1) (1)	MR MR	MR MR	1/Month	Metered
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Month	Calculated
pH	s.u.	Instant Min. Instant Max.	6.9 8.0	6.0 9.0	6.0 9.0	1/Month	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	12 23	50 75	50 75	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	7 13	20 40	20 40	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # detect/# non-detect	0.24 0.31 3/17	MR MR	MR MR	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (2)	MR	MR	1/5 years (3)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) Prior flow numbers (~100,000 gpd) were reported in error. Approximately 24,000 gpd is discharged in ~ 8 minutes, one time per day.
- (2) July 2010 data for both species resulted in values >100 % effluent.
- (3) The monitoring frequency is once per 5 years, if there is a discharge.

(#26) Township of North Brunswick WTP/ American Water Services – NJG0035190

Receiving Water: All outfalls discharge to the Delaware and Raritan Canal

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: Arsenic, Phosphorus

Source Water: Delaware and Raritan Canal

Discharge Frequency: 001A is intermittent but almost continuous, occurs four times per hour for a few minutes; 005A is dependent on rain events; 006A would only discharge in an emergency situation

Residuals: Monitoring is included in this permit

WCR Parameters: The monitoring frequencies for 001A and 005A are retained at once per five years.

Additives (005A and 006A only): Sodium Hypochlorite, Polyphosphate, Polyaluminum Chloride, Polymers, Caustic (Sodium Hydroxide)

001A: water from the pipe gallery sump pumps, meter pit, and some storm water runoff from on-site paved areas

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.0013 0.0014	MR MR	MR MR	1/Month	Calculated (1)
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Month	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	14 37	MR 50	MR 50	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	4 12	20 40	20 40	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	1.7 4.7	10 15	10 15	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.5 8.9	6.0 9.0	6.0 9.0	1/Month	Grab
Chronic WET, IC25 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

(1) Process water is calculated from the pumping rate of the sump pump and a pump curve. Stormwater is calculated using the drainage area and rainfall totals.

002A: Inactivated

This outfall was eliminated from the permit when DSN005A and DSN006A were created. DSN002A was a sampling point that was closer to the end of the pipe. However, the water level in the D&R Canal has gone up and samples at DSN002A included ambient water along with wastewater, so the monitoring point was moved further back into the pipe and became DSN005A. However, DSN005A now samples before the clear well overflow enters the discharge so DSN006A covers the clear well overflow discharge, which would only occur in an emergency.

003A: No requirements (Intake Screen Washwater)

No monitoring or limitations are needed at this outfall since the discharge consists of only intake screen washwater which is discharged to the same waterbody from which it is withdrawn.

004A: Inactivated

This outfall was removed from the permit as a result of the permittee's request on 5/18/11.

(#26) Township of North Brunswick WTP/ American Water Services – NJG0035190 (continued)

005A: backwash holding tank emergency overflow and storm water

Filters are backwashed using potable water. Backwash is generally recycled, will only be discharged via 005A in an emergency situation.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	0.003 0.2	MR MR	MR MR	1/6 Months	Calculated (1)
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/6 Months	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	<5 <5	MR 50	MR 50	1/6 Months	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	2.5 2.5	20 60	20 40	1/6 Months	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	<1.5 <1.5	10 15	10 15	1/6 Months	Grab
pH	s.u.	Instant Min. Instant Max.	6.4 7.2	6.0 9.0	6.0 9.0	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.05 <0.05	MR 0.02 (1)	MR 0.02 (2)	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	--	MR	1/5 Years (3)	Composite

Footnotes & Abbreviations: MR Monitor and Report only; -- No data available

- (1) Flow is calculated based on the flow rate in drainage lines. Stormwater is calculated using the drainage area and rainfall totals.
- (2) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (3) Acute WET monitoring requirement is included on the WCR at a frequency of once per 5 years, if there is a discharge.

006A: clearwell storage tank overflow

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Calculated (1)
Duration of Discharge	days/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	--	--	MR	1/Discharge	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 50	MR 50	1/Discharge	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 60	20 40	1/Discharge	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI NODI	10 15	10 15	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.02 (2)	MR 0.02 (2)	1/Discharge	Grab
Acute WET, LC50 (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	--	--	MR	1/Discharge (3)	Composite

Footnotes & Abbreviations: MR Monitor and Report only; -- No data available

- (1) Flow shall be calculated using clearwell tank volume and time duration of overflow.
- (2) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (3) Acute WET monitoring requirement is included on the WCR at a frequency of once per 5 years, if there is a discharge.

(#27) Water Street WTP/ Pennsville Twp. – NJG0068730

Receiving Water: Delaware River

Receiving Water Classification: Zone 5 (Saline)

Water Quality Impairments: PCBs

Water Source: Well water

Discharge Frequency: Intermittent; no Discharge since 1996; backwash stored in lagoons is usually recycled to the head of the plant.

Residuals: Monitoring is included in this permit.

WCR Parameters: This monitoring frequency is decreased to once per five years.

Additives: Sodium Hypochlorite, Lime, Alum Sulfate, Polyphosphate (Klenphos)

001A: Filter Backwash from secondary lagoon
 Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	days/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Flow	million gallons/month	Monthly Total	NODI	MR	MR	1/Discharge	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI	20 40	20 40	1/Discharge	Grab
pH	s.u.	Instant Min. Instant Max.	NODI	6.0 9.0	6.0 9.0	1/Discharge	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI	MR 0.1	MR 0.1	1/Discharge	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI	MR MR	MR MR	1/Discharge	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	--	--	MR MR	1/Discharge	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	--	--	MR MR	1/Discharge	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	--	--	MR MR	1/Discharge	Grab
Acute WET, LC50 (<i>Mysidopsis bahia</i>)	% effluent	Minimum	NODI	MR	MR	1/5 Years (1)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

NODI No Discharge

(1) Acute WET monitoring requirement is included on the WCR at a frequency of once per 5 years, if there is a discharge.

(#28) Woodlane WTP/ Mt Holly Township Water Company – NJG0062693

Receiving Water: Unnamed tributary to Barker’s Brook via storm sewer

Receiving Water Classification: FW2-NT (C2)

Water Quality Impairments: No known impairment

Water Source: Well water

Discharge Frequency: Intermittent, one to two times per week

Residuals: Monitoring is included in a groundwater permit.

WCR Parameters: This monitoring frequency is decreased from twice per permit cycle to once per five years.

Additives: Hypochlorite, Sodium Hydroxide, and Zinc Orthophosphate

001A: Filter backwash

Finished water is used to backwash the greensand filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 1/1/06-12/31/10	EXISTING LIMITS	FINAL LIMITS	Final Monitoring Frequency	Sample Type
Flow	GPD	Monthly Avg. Daily Max.	0.05 0.05	MR MR	MR MR	1/Month	Metered
Duration of Discharge	days/month	Monthly Total	0.17	MR	MR	1/Month	Calculated
Total Flow	million gallons/month	Monthly Total	0.05	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	3 32	20 40	20 40	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	7 8.5	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.05 0.1	MR (1) 0.01 (1)	MR (1) 0.01 (1)	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	0.11 0.36	MR MR	MR MR	1/6 Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	0.18 2.21	1.5 3.0	1.5 3.0	1/ 6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	17 269	MR MR	MR MR	1/ 6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	3.6 34	MR MR	MR MR	1/ 6 Months	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (2)	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (2)	Grab
Radium-226 & Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	Annual (2)	Grab
Acute WET (<i>Ceriodaphnia dubia</i>)	% effluent	Minimum	>100 (3)	MR	MR	1/5 Years (4)	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- No data available

- (1) There is no enforceable quantification level included for the monthly average. However, the permittee is required to monitor and report the monthly average. The permittee shall comply with the enforceable quantification level of 0.1 as a daily maximum concentration.
- (2) The monitoring frequencies for Radium-226 & Radium-228 have been reduced from the draft master permit to once per five years in this final master permit and in the individual authorization.
- (3) WET data consists of 11 data points spanning from 4/07 to 12/10, all of which were LC50 >100%.
- (4) Acute WET monitoring requirement is included on the once per 5 years WCR form.



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: NJ0129500

Final: Surface Water Master General Permit New

Permittee:

NJPDES Master General Permit Program Interest
 Category BPW
 Per Individual Notice of Authorization
 Division of Water Quality
 Mail Code 401-02B
 P.O. Box 420, 401 East State Street
 Trenton, NJ 08625-0420

Property Owner:

NJPDES Master General Permit Program Interest
 Category BPW
 Per Individual Notice of Authorization
 Division of Water Quality
 Mail Code 401-02B
 P.O. Box 420, 401 East State Street
 Trenton, NJ 08625-0420

Location Of Activity:

NJPDES Master General Permit Program Interest
 Category BPW
 Per Individual Notice of Authorization
 Division of Water Quality
 Mail Code 401-02B
 P.O. Box 420, 401 East State Street
 Trenton, NJ 08625-0420

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
BPW -Potable Water Treatment Plant (GP)	2/3/12	4/1/12	3/31/17

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

**DEP AUTHORIZATION
 Pilar Patterson, Chief
 Bureau of Surface Water Permitting
 Water Pollution Management Element
 Division of Water Quality**

(Terms, conditions and provisions attached hereto)

Division of Water Quality

PART I GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.
- b. General Conditions
 - Penalties for Violations N.J.A.C. 7:14A-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(c) & (d)
 - Duty to Provide Information N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
 - Schedules of Compliance N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
 - Transfer N.J.A.C. 7:14A-6.4
 - N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

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

B. General Conditions

1. Scope

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

2. Permit Renewal Requirement

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

3. Notification of Non-Compliance

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

4. Notification of Changes

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

5. Access to Information

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

6. Operator Certification

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.
 - i. Notifications shall be submitted to:
NJDEP
Examinations and Licensing Unit
Mail Code 401-04E
P.O. Box 420
Trenton, New Jersey 08625-0420
(609) 777-1013
- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

7. Operation Restrictions

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

8. Residuals Management

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

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

PART III LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:

BPW- Potable Plant Discharge

RECEIVING STREAM:

Varies

STREAM CLASSIFICATION:

DISCHARGE CATEGORY(IES):

BPW - Potable Water Treatment Plant
(GP)

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: at the frequency that will be specified in each individual authorization.

Comments:

Actual permit conditions and DMR reporting requirements will be specified for each individual authorization when issued. All are at least as stringent as the conditions contained below, and contain several additional parameters with varied monitoring frequencies. The receiving stream classifications vary among the individual facilities.

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

PHASE: Final

PHASE Start Date: 04/01/2012

PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	REPORT Monthly Total	*****	DAYS/MON	*****	*****	*****	*****	1/Month	Calculated
	January thru December	QL	***		***	***	***			
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	1/Month	Measured
	January thru December	QL	***		***	***	***			
Flow, Total	Effluent Gross Value	REPORT Monthly Total	*****	MGAL/MON	*****	*****	*****	*****	1/Month	Calculated
	January thru December	QL	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Instant Minimum	*****	9.0 Instant Maximum	SU	1/Month	Grab
	January thru December	QL	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: at the frequency that will be specified in each individual authorization.

Comments:

Actual permit conditions and DMR reporting requirements will be specified for each individual authorization when issued. All are at least as stringent as the conditions contained below, and contain several additional parameters with varied monitoring frequencies. The receiving stream classifications vary among the individual facilities.

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

PHASE:Final **PHASE Start Date:** 04/01/2012 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Effluent Gross Value	*****	*****	*****	*****	20 Monthly Average	40 Daily Maximum	MG/L	1/Month	Grab
	January thru December	QL	***		***	***	***			

MONITORED LOCATION:

S10A SQAR Reporting

DISCHARGE CATEGORY(IES):

BPW - Potable Water Treatment Plant
(GP)

Location Description

Sampling, analysis, and reporting of residuals forms required pursuant to the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C) will be contained in each individual general permit authorization that contains residuals reporting requirements.

Contributing Waste Types

Ind Residual-Water Treat

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month.

Comments:

Al and/or Fe are tested if an Al or Fe containing coagulant is used in treatment. Trihalomethanes are required if the WTP receives all or a portion of the water from surface water and chlorinates prior to distribution. Radionuclides are required if the WTP receives water or uses additives known or suspected of having elevated Radionuclides

Table III - B - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final

PHASE Start Date: 04/01/2012

PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	%TS	1/Month	Composite
	January thru December	QL	***		***	***	***			
Nitrate Nitrogen, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Nitrogen, Kjeldahl Total, Dry Wt	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Potassium Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month.

Comments:

Al and/or Fe are tested if an Al or Fe containing coagulant is used in treatment. Trihalomethanes are required if the WTP receives all or a portion of the water from surface water and chlorinates prior to distribution. Radionuclides are required if the WTP receives water or uses additives known or suspected of having elevated Radionuclides

Table III - B - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final PHASE Start Date: 04/01/2012 PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Nitrogen, Ammonia Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			
Molybdenum Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			
Phosphorus Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			
Arsenic, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			
Aluminum, Total (as Al)	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			
Selenium, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			
Copper, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	QL	***	***		***	***	***			

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month.

Comments:

Al and/or Fe are tested if an Al or Fe containing coagulant is used in treatment. Trihalomethanes are required if the WTP receives all or a portion of the water from surface water and chlorinates prior to distribution. Radionuclides are required if the WTP receives water or uses additives known or suspected of having elevated Radionuclides

Table III - B - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final PHASE Start Date: 04/01/2012 PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Cadmium, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Zinc, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Lead, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Nickel, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Mercury, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Iron, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Bromoform Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month.

Comments:

Al and/or Fe are tested if an Al or Fe containing coagulant is used in treatment. Trihalomethanes are required if the WTP receives all or a portion of the water from surface water and chlorinates prior to distribution. Radionuclides are required if the WTP receives water or uses additives known or suspected of having elevated Radionuclides

Table III - B - 1: Residuals DMR Limits and Monitoring Requirements

PHASE:Final **PHASE Start Date:** 04/01/2012 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chlorodibromomethane Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Chloroform Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
	January thru December	QL	***		***	***	***			
Dichlorobromomethane Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	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.

Table III - B - 3: Residuals WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 04/01/2012 **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Amt Sludge Rmvd, Wet Cubic Yards	Industrial Residuals	REPORT	WCY/YR	Calculated	January thru December
Amt Sludge Rmvd, Wet Metric Tons	Industrial Residuals	REPORT	WMT/YR	Calculated	January thru December
Amt Sludge Rmvd, Gallons	Industrial Residuals	REPORT	GAL/YEAR	Calculated	January thru December
Total Amount of 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 a Monthly RTR: due 60 calendar days after the end of each calendar month.

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Potable Water Treatment Plant (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. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the Bureau of Surface Water Permitting. For limited parameters with no QL specified, the sample analysis shall use a detection level at least as sensitive as the effluent limit.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported with 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. Monitoring for Wastewater Characterization Report parameters shall be conducted concurrently with the Whole Effluent Toxicity (WET) monitoring, when feasible.
- i. 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.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

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

C. REPORTING

1. Standard Reporting Requirements

- a. The permittee shall submit all required monitoring results to the Department on the forms provided to them. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. Any MRFs in paper format shall be submitted to the following addresses:
 - i. NJDEP
Mail Code 401-02B
Division of Water Quality
Office of Permit Management
P.O. Box 420
Trenton, New Jersey 08625-0420
 - ii. (if requested by the Northern Water Compliance and Enforcement Bureau)
NJDEP: Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927-1112
(Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren)
 - iii. (if requested by the Central Water Compliance and Enforcement Bureau)
NJDEP: Central Bureau of Water Compliance and Enforcement
Mail Code 44-03
4 Station Plaza
P.O. Box 420
Trenton, New Jersey 08625-0420
(Counties of Mercer, Middlesex, Monmouth, Ocean and Union)
 - iv. (if requested by the Southern Water Compliance and Enforcement Bureau)
NJDEP: Southern Bureau of Water Compliance and Enforcement
2 Riverside Drive, Suite 201
Camden, New Jersey 08103
(Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem)

- c. Any electronic data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.
- d. All monitoring report forms shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.
- e. The highest ranking official may delegate responsibility to certify the monitoring report forms in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- f. Monitoring results shall be submitted in accordance with the current Discharge Monitoring Report 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. For intermittent discharges, the permittee shall obtain a sample during at least one of the discharge events occurring during a monitoring period.
- i. If there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.
- j. If the permittee does not anticipate discharge events for one year or more and does not want to receive monitoring report forms (MRFs), please contact the Bureau of Surface Water Permitting at (609) 292-4860 to temporarily cease MRF generation. In the event that a discharge is expected to occur, notify the Bureau of Surface Water Permitting as far in advance as possible to resume MRF generation.
- k. Duration of Discharge is the number of days (and not the number of times) on which a discharge occurs during a month and shall be reported as a monthly total in days/month. Therefore, if more than one discharge occurs in a day, it should only be counted as one day towards the monthly total for that month. Total Flow is the sum of the flows from each discharge event during a month and shall be reported as a monthly total in million gallons per month. Therefore, if more than one discharge occurs in a day, flow shall be measured for each discharge event to obtain the monthly total flow for that month.

D. 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.
- b. 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.

2. Compliance Schedule Progress Reports

- a. In accordance with N.J.A.C. 7:14A-6.4(a), a schedule of compliance has been included for facilities with new Acute or Chronic WET limitations, including interim deadlines for annual progress reports that outline the progress towards compliance with the conditions of this permit.

- i. Submit a Compliance Schedule Progress Report: within 12 months from the effective date of the permit authorization (EDPA) (Acute or Chronic WET).
- ii. Submit a Compliance Schedule Progress Report: within 24 months from the effective date of the permit authorization (EDPA) (Acute or Chronic WET).
- b. The compliance schedule progress reports shall be submitted to the following Departmental entities:
 - i. NJDEP
 Mail Code 401-02B
 Division of Water Quality
 Bureau of Surface Water Permitting
 P.O. Box 420
 Trenton, New Jersey 08625-0420
 - ii. The appropriate Bureau of Water Compliance and Enforcement, as listed above in Section C.1.b.

E. FACILITY MANAGEMENT

1. Discharge Requirements

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

2. Acute Toxicity Testing Requirements (applicable only if acute toxicity monitoring or a limit is specified in Part III of the individual authorization)

- 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 the individual authorization.
- c. Part III of the individual authorization may contain an effluent limitation or monitoring requirement for acute Whole Effluent Toxicity. Toxicity Reduction and Implementation Requirements may be triggered based on exceedences of this limitation. See the Toxicity Reduction and Implementation Requirements section below for more details.
- d. 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.

- e. LC50 - Lethal Concentration - Concentration of effluent that is lethal to 50% of the test organisms, as compared to the control.
- f. NOAEC (No Observable Adverse Effect Concentration): The lowest concentration of effluent where survival in the test group is not significantly different from the control. This is always set at 100% effluent.
- g. The permittee shall submit an Acute Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.
- h. Submit an acute whole effluent toxicity test report along with your Discharge Monitoring Reports within twenty-five days after the end of every month during which an acute whole effluent toxicity test was performed. These toxicity tests shall be performed according to the frequency specified in the individual General Permit Authorization. The permittee shall submit toxicity test results on the appropriate forms.
- i. Test reports shall be submitted to:
NJDEP
Mail Code 401-02B
Bureau of Surface Water Permitting
P.O. Box 420
Trenton, New Jersey 08625-0420

3. Chronic Toxicity Testing Requirements (applicable only if chronic toxicity monitoring or a limit is specified in Part III of the individual authorization)

- 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. The permittee shall submit a Chronic Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.
- g. Submit a chronic whole effluent toxicity test report along with your Discharge Monitoring Reports within twenty-five days after the end of every month during which a chronic whole effluent toxicity test was performed. These toxicity tests shall be performed according to the frequency specified in the individual General Permit Authorization. The permittee shall submit toxicity test results on appropriate forms.

- h. Test reports shall be submitted to:
NJDEP
Mail Code 401-02B
Bureau of Surface Water Permitting
P.O. Box 420
Trenton, New Jersey 08625-0420

4. Toxicity Reduction Implementation Requirements (TRIR) (applicable only if a whole effluent toxicity limit is specified in Part III)

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity limit specified in Part III of the individual authorization.
 - i. If the exceedence of the toxicity limit is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limits in Part III. The monitoring frequency for toxicity testing shall be increased to semi-monthly (i.e. every two months). Up to 12 additional tests may be required.
 - i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity limit.
 - ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit in Part III, the permittee shall repeat Toxicity Reduction Implementation Requirements.
- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the fourth exceedence of the toxicity limit specified in Part III during 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 in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.
- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit in Part III can not be made.

- i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.
 - ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit in Part III, a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
 - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
 - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.
- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.
- i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit in Part III in four consecutive toxicity tests.
 - ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit in Part III, the permittee shall submit a plan for resuming the CTI.

5. Applicability of Discharge Limitations and Effective Dates

- a. This permit includes multiple phases for initial and final (if a three year compliance schedule is included for WET in the individual authorization). The initial phase limits are effective from the effective date of the permit authorization (EDPA) until EDPA + 36 months. The final limits will become effective on EDPA + 36 months.
- b. The final limits will become effective on EDPA (if no compliance schedule is included for WET).

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. 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 annual or once per permit cycle. The criteria for such reduction is a minimum of 4 consecutive data points with a result of >100. The Department may also consider site-specific characteristics such as discharge volume, location and wastewater constituents.
- 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 toxics monitoring to either annual or once per permit cycle. The criteria for such reduction is a minimum of 4 consecutive non-detectable values.

G. OPERATIONAL ISSUES

1. Operational Requirements

- a. 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 agents which may be found in the discharge due to their presence in backwash water, the permittee must obtain permission from the Department in writing prior to use of such compounds.
- b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall also include a material safety data sheet for the product(s).
- c. This letter shall be submitted to the Bureau of Surface Water Permitting, at the address indicated in the cover letter. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization under the permit. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for 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. Revocation of an Individual Authorization under the Permit.

- a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the permit. The permittee can obtain the necessary revocation forms by accessing www.state.nj.us/dep/dwq or by contacting the Department's Office of Permit Management at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.
- b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee. However, the Department will not revoke an individual authorization if the Site Remediation Program disagrees that revocation is appropriate.

NJPDES MASTER GENERAL PERMIT PROGRAM INTEREST, Trenton

Permit No.NJ0129500
DSW970001 Surface Water Master General Permit New

APPENDIX A:

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

Version 2.1

May 1997

TABLE OF CONTENTS

- I. AUTHORITY AND PURPOSE**
- II. GENERAL CONDITIONS**
 - A. Laboratory Safety and Glassware
 - B. Test Concentrations / Replicates
 - C. Dilution Water
 - D. Effluent Sample Collection
 - E. Physical Chemical Measurements
 - F. Statistics
- III. TEST ACCEPTABILITY CRITERIA**
- IV. STANDARD REFERENCE TOXICANT TESTING**
 - A. Initial Testing Requirements
 - B. Subsequent Testing Requirements
 - C. Changing an Established Reference Toxicant
 - D. Control Charts
 - E. Unacceptable SRT Results
 - F. Annual Submittals
- V. TEST CANCELLATION / RESCHEDULING EVENTS**
- VI. REPORTING**
- VII. METHODS SPECIFICATIONS**
 - A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
 - B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
 - C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
 - D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
 - E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
 - F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
 - G. *Champia parvula*, Sexual Reproduction Test, method 1009.0
- VIII. REFERENCES**

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

I. AUTHORITY AND PURPOSE

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

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

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

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

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

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

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

B. TEST CONCENTRATIONS / REPLICATES

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

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

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

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

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

Table 1.0: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT

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

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

C. DILUTION WATER

1. Marine and Estuarine Waters

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

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

2. Fresh Waters

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

D. EFFLUENT SAMPLE COLLECTION

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

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

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

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

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

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

E. PHYSICAL CHEMICAL MEASUREMENTS

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

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

F. STATISTICS

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

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

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

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

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

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

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

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (IC_p) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate IC_p values and not the bootstrap mean IC_p, shall be reported for permit compliance purposes. The IC_p value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC₂₅ values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the IC_p method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the IC_p is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC₂₅'s can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC₂₅ value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC₂₅ value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC₂₅ value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

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

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

Table 2.0:

CONTROL PERFORMANCE

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

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

IV. STANDARD REFERENCE TOXICANT TESTING

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

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

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

B. SUBSEQUENT SRT TESTING REQUIREMENTS

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

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

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

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

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

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

D. CONTROL CHARTS

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

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

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

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

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

E. UNACCEPTABLE SRT TEST RESULTS

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

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

F. ANNUAL SUBMITTALS

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

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

V. TEST CANCELLATION / RESCHEDULING EVENTS

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

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

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

VI. REPORTING

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

Bureau of Surface Water Permitting
New Jersey Department of Environmental Protection
Division of Water Quality
Mail Code 401-2B
PO Box 420
Trenton, NJ 08625-0420

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

VII. METHOD SPECIFICATIONS

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

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

VIII. REFERENCES

1. Keating, K. 1985. The influence of Vitamin B12 deficiency on the reproduction of Daphnia pulex Leydig (Cladocera). *J. Crustacean Biology* 5:130-136.
2. Keating, K. 1988. N.J.D.E.P. Project C29589, Fiscal 1988 Third Quarter Summary Report. Producing Nutritionally Competent Daphnids for Use in Bioassay. 44p.
3. Keating, K., and B. Dagbusan. 1984. Effect of selenium deficiency on cuticle integrity in Cladocera (Crustacea). *Proc. Natl. Acad. Sci. USA* 81:3433-3437.
4. NJDEP, 1993. Discharge Monitoring Report (DMR) Instruction Manual.
5. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-600/4-91-003. July 1994. Second Edition.
6. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. July 1994. Third Edition.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code 401-2B
P.O. Box 420
TRENTON, NEW JERSEY 08625-0420
BIOMONITORING PROGRAM

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

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

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: ____/____/____

TEST END DATE: ____/____/____

REASON FOR CANCELLATION: _____

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

SAMPLING INITIATED: DATE: ____/____/____ TIME: _____

SAMPLING ENDED: DATE: ____/____/____ TIME: _____

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.