State of New Jersey

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Water Pollution Management Element
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

CATHERINE R. McCABE
Commissioner

EMAIL ONLY

August 2, 2018

Scott T. Northey
Site Environmental Manager
Chemours Co. FC LLC Chambers Works
67 Canal Road
Deepwater, NJ 08023

Re: Final Surface Water Minor Mod Permit Action
Category: B - Industrial Wastewater
NJPDES Permit No. NJ0005100
Chambers Works
Pennsville Twp, Salem County

Dear Mr. Northey:

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. This action modifies the following permit conditions:

- Incorporation of sampling for an additional Perfluorinated Compound, namely Hexafluoropropylene oxide-Dimer Acid. This compound has been added to the narrative condition at Part IV, Section G.7.a. of the permit.

The language at Part IV, Section G.7.a. is revised as follows (addition shown with underline):

"a. The permittee shall sample for Perfluorinated Compounds (PFCs) at DSN 662A on a weekly basis. The following compounds shall be sampled:

C4 – Perfluorobutanoate (PFBA)
C5 – Perfluoro-n-pentanoic acid (PFPeA)
C6 – Perfluorohexanoic acid (PFHxA)
C7 – Perfluoroheptanoic acid (PFHpA)
C8 – Perfluorooctanoic acid (PFOA)
C9 – Perfluorononanoic acid (PFNA)
C10 – Perfluorodecanoic acid (PFDA)
C11 – Perfluoroundecanoic acid (PFUnA)
C12 – Perfluorododecanoic acid (PFDoA)
C13 – Perfluorotridecanoic acid (PFTriA)
C14 – Perfluorotetradecanoic acid (PFTeA)
C4-S – Perfluorobutanesulfonic acid (PFBS)
C6-S – Perfluorohexanesulfonic acid (PFHxS)
C8-S – Perfluorooctanesulfonic acid (PFOS)

Perfluorooctanesulfonamide (PFOSA)
Hexafluoropropylene oxide-Dimer Acid

The sample shall be analyzed by a New Jersey certified laboratory which can detect all the above listed PFCs, and is certified for analyzing these compounds in wastewater (NPW). A list of certified laboratories can be obtained at http://www.nj.gov/dep/oqa/certlabs.htm. The permittee shall ensure that the method used provides sufficiently low detection levels. A detection level of less than any drinking water criteria would be sufficient to determine if the PFC is detected in the effluent."

This permit package contains the modified permit. Those changes that are affected by this permit action are noted as such on the Table of Contents.

Questions or comments regarding the final action should be addressed to Robert Hall at (609) 292-4860.

Sincerely,

Susan Rosenwinkel
Acting Bureau Chief
Bureau of Surface Water Permitting

Enclosures

cc: Permit Distribution List
Masterfile #: 15645; PI #: 46287

FACILITY SUBMITTALS

1. GDR - General Discharge Requirements

Task Description	Actual Due Date
Submit a Complete Permit Renewal Application	10/02/2022

2. B - Industrial Wastewater

Task Description	Actual Due Date
Submit a chronic whole effluent toxicity test report	07/26/2018
Submit an Acute Whole Effluent Toxicity Test Report	07/26/2018
Submit a chronic whole effluent toxicity test report	10/26/2018
Submit an Acute Whole Effluent Toxicity Test Report	10/26/2018
Submit a chronic whole effluent toxicity test report	01/26/2019
Submit an Acute Whole Effluent Toxicity Test Report	01/26/2019
Submit a chronic whole effluent toxicity test report	04/26/2019
Submit an Acute Whole Effluent Toxicity Test Report	04/26/2019
Submit a chronic whole effluent toxicity test report	07/26/2019
Submit an Acute Whole Effluent Toxicity Test Report	07/26/2019
Submit a chronic whole effluent toxicity test report	10/26/2019
Submit an Acute Whole Effluent Toxicity Test Report	10/26/2019
Submit a chronic whole effluent toxicity test report	01/26/2020
Submit an Acute Whole Effluent Toxicity Test Report	01/26/2020
Submit a chronic whole effluent toxicity test report	04/26/2020
Submit an Acute Whole Effluent Toxicity Test Report	04/26/2020
Submit a chronic whole effluent toxicity test report	07/26/2020
Submit an Acute Whole Effluent Toxicity Test Report	07/26/2020
Submit a chronic whole effluent toxicity test report	10/26/2020
Submit an Acute Whole Effluent Toxicity Test Report	10/26/2020
Submit a chronic whole effluent toxicity test report	01/26/2021
Submit an Acute Whole Effluent Toxicity Test Report	01/26/2021
Submit a chronic whole effluent toxicity test report	04/26/2021
Submit an Acute Whole Effluent Toxicity Test Report	04/26/2021
Submit a chronic whole effluent toxicity test report	07/26/2021
Submit an Acute Whole Effluent Toxicity Test Report	07/26/2021
Submit a chronic whole effluent toxicity test report	10/26/2021
Submit an Acute Whole Effluent Toxicity Test Report	10/26/2021
Submit a chronic whole effluent toxicity test report	01/26/2022
Submit an Acute Whole Effluent Toxicity Test Report	01/26/2022
Submit a chronic whole effluent toxicity test report	04/26/2022
Submit an Acute Whole Effluent Toxicity Test Report	04/26/2022
Submit a chronic whole effluent toxicity test report	07/26/2022
Submit an Acute Whole Effluent Toxicity Test Report	07/26/2022
Submit a chronic whole effluent toxicity test report	10/26/2022
Submit an Acute Whole Effluent Toxicity Test Report	10/26/2022

Task Description	Actual Due Date
Submit a chronic whole effluent toxicity test report	01/26/2023
Submit an Acute Whole Effluent Toxicity Test Report	01/26/2023

Table of Contents for the Final Permit

1. **Cover Letter**
2. **Facility Submittals (No Changes)**
3. **Table of Contents**
4. **List of Acronyms (No Changes)**
5. **NJPDES Permit Authorization Page (Contains changes)**
6. **Part I – General Requirements: NJPDES (No Changes)**
7. **Part II – General Requirements: Discharge Categories (No Changes)**
8. **Part III – Limits and Monitoring Requirements (No Changes)**
9. **Part IV – Specific Requirements: Narrative (Contains Changes)**
10. **Appendix A: Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program (No Changes)**
11. **Appendix B: Approved Corrosion Inhibitors, Biocides, or Additives to be Used at the Chemours Chambers Works Facility (No Changes)**

List of Acronym

ACR	Acute to Chronic Ratio
AML	Average Monthly Limitation
BMP	Best Management Practices
BPJ	Best Professional Judgement
CAP	Capacity Assurance Program
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWEA/CWA	Clean Water Enforcement Act/Clean Water Act
Department	New Jersey Department of Environmental Protection
DGW	Discharge to Groundwater
DMR	Discharge Monitoring Report
DRBC	Delaware River Basin Commission
DSN	Discharge Serial Number
DSW	Discharge to Surface Water
EDP/M	Effective Date of the Permit/Permit Modification
EEQ	Existing Effluent Quality
ELG	Effluent Limitation Guideline
g/d or g/day	Grams per Day
IEC	Interstate Environmental Commission
IPP	Industrial Pretreatment Program
kg/d or kg/day	Kilograms per Day
LTA	Long Term Average
MA1CD10 or 1Q10	Minimum average one day flow with a statistical recurrence interval of ten years
MA7CD10 or 7Q10	Minimum average seven consecutive day flow with a statistical recurrence interval of ten years
MA30CD5 or 30Q5	Minimum average 30 consecutive day flow with a statistical recurrence interval of five years
mg/L	Milligrams per Liter
MDL	Maximum Daily Limitation
MGD	Million Gallons per Day
MRF	Monitoring Report Form
NPDES/NJPDES	National/New Jersey Pollutant Discharge Elimination System
NJR	New Jersey Register
PCB	Polychlorinated Biphenyls
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
RPMF	Reasonable Potential Multiplying Factor
RTR	Residuals Transfer Report
RQL	Recommended Quantification Levels
RWBR	Reclaimed Water for Beneficial Reuse
SIC	Standard Industrial Classification Code
SIU	Significant Indirect User
SQAR	Sludge Quality Assurance Regulations
SWQS	Surface Water Quality Standards
TMDL	Total Maximum Daily Load
TR	Total Recoverable
TRIR	Toxicity Reduction Implementation Requirements
USEPA TSD	USEPA Technical Support Document for Water Quality Based Toxics Control (EPA/505/2-90-001, March 1991)
ug/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	Ultraviolet
WCR	Wastewater Characterization Report
WER	Water Effects Ratio
WLA	Wasteload Allocation
WWTP	Wastewater Treatment Plant
WQBEL	Water Quality Based Effluent Limitation

NEW JERSEY 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: NJ0005100

Final: Surface Water Minor Mod Permit Action

Permittee:
Chemours Co. FC LLC Chambers Works
67 Canal Road
P.O. Box 9001
Deepwater, NJ 08023

Co-Permittee:

Property Owner:
Chemours Co. FC LLC Chambers Works
67 Canal Road
P.O. Box 9001
Deepwater, NJ 08023

Location of Activity:
Chambers Works
Route 130
Deepwater, Salem County

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
B - Industrial Wastewater - Renewal	02/22/2018	04/01/2018	03/31/2023
B - Industrial Wastewater – Minor Modification (Revision of Language at Part IV.G.6.b)	03/23/2018	04/01/2018	03/31/2023
B - Industrial Wastewater – Minor Modification (Revision of Part IV.G.7.a to add parameter)	08/02/2018	09/01/2018	03/31/2023

By Authority of:
Commissioner's Office

Susan Rosenwinkel

DEP AUTHORIZATION
Susan Rosenwinkel, Acting Bureau Chief
Bureau of Surface Water Permitting
Division of Water Quality

(Terms, conditions and provisions attached hereto)

PART I
GENERAL REQUIREMENTS:
NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.

i. Surface Water Quality Standards N.J.A.C. 7:9B-1

ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

B. General Conditions

1. Scope

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

2. Permit Renewal Requirement

a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.

b. Submit a complete permit renewal application: 180 days before the 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
Mail Code 401-04E
Bureau of Licensing and Registration
Mail Code 401-04E
P.O. Box 420
Trenton, New Jersey 08625-0420
(609) 984-6507.

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

7. Operation Restrictions

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

8. Standard Reporting Requirements – Monitoring Report Forms (MRFs)

a. Monitoring Report Form (MRF) data submission shall be in accordance with the guidelines and provisions outlined in the Department’s Electronic Data Interchange (EDI) agreement with the permittee.

b. MRFs shall be submitted at the frequencies identified in Part III of this permit.

c. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.

d. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to certify shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

e. Monitoring results shall be submitted in accordance with the current NJPDES Monitoring Report Form Reference Manual and any updates thereof.

f. If monitoring for a parameter is not required in a monitoring period, the permittee must report “CODE=N” for that parameter.

g. If, for a monitored location, there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results by checking the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

9. Standard Reporting Requirements - Electronic Submission of NJPDES Information

a. Effective December 21, 2020, the below identified documents and reports, if required to be submitted by this permit, shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.

i. CWA 316(b) annual reports

PART III
LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
001A SW Outfall DSN 001A	Delaware River	Mainstem Delaware-Zone 5	B - Industrial Wastewater

Location Description

Effluent sampling shall take place at the sampling station DSN 001A prior to discharge through the flow weir. DSN 001A discharges at lat. 39d 41' 55" and long. 75d 30' 20".

Contributing Waste Types

Non-contact Cooling Water, Storm Water Runoff

Surface Water DMR Reporting Requirements:

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

Comments:

This outfall represents overflow from B-Basin when flows are in excess of 56 million gallons per day at DSN 002A and when pumps P-3 and P-4 are run to verify operability and the keep the wood stave pipe wet.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	HRS/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	*****	*****	*****	*****	Continuous	Calculated
January thru December	QL	***	***		***	***	***			
BOD, 5-Day (20 oC)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	Composite
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Daily Minimum	*****	9.0 Daily Maximum	SU	1/Month	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

This outfall represents overflow from B-Basin when flows are in excess of 56 million gallons per day at DSN 002A and when pumps P-3 and P-4 are run to verify operability and the keep the wood stave pipe wet.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Effluent Gross Value	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	50 Daily Maximum	MG/L	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	10 Monthly Average	15 Daily Maximum	MG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Carbon, Tot Organic (TOC)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	50 Daily Maximum	MG/L	1/Month	Composite
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
002A SW Outfall DSN 002A	Delaware River	Mainstem Delaware-Zone 5	B - Industrial Wastewater

Location Description

Effluent sampling shall take place at the sampling station DSN 002A prior to discharge through the flow weir. DSN 002A discharges at lat. 39d 41' 53.73" and long. 75d 30' 35.33". Intake sampling shall take place at Spot 101.

Contributing Waste Types

CWT wastewater, Contact Cooling Water, Ground Water Treatment, Non-contact Cooling Water, OCPSF process waste, Storm Water Runoff

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Intake	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	2/Week	Calculated
January thru December	QL	***	***		***	***	***			
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	Continuous	Metered
January thru December	QL	***	***		***	***	***			
BOD, 5-Day (20 oC)	Effluent Gross Value	4260 Monthly Average	7710 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	2/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Daily Minimum	*****	9.0 Daily Maximum	SU	Continuous	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Intake	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	2/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	2/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Net Value	4496 Monthly Average	6744 Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	2/Week	Calculated
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	REPORT Monthly Average	1500 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	10 Daily Maximum	MG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Organic Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	5246 Monthly Average	6745 Daily Maximum	KG/DAY	*****	35 Monthly Average	45 Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nitrogen, Nitrite Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Nitrogen, Nitrate Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Geo Avg	REPORT Weekly Geometric	#/100ML	1/Week	Grab
January thru December	QL	***	***		***	***	***			
LC50 Stat 96hr Acu Pimephales	Effluent Gross Value	*****	*****	*****	19 Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
January thru December	QL	***	***		***	***	***			
IC25 Statre 7day Chr Ceriodaphnia	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
January thru December	QL	***	***		***	***	***			
Chlorine Produced Oxidants	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	0.2 Daily Maximum	MG/L	1/Week	Grab
January thru December	RQL	***	***		***	0.02	0.02			
Temperature, oC	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	38.7 Daily Maximum	DEG.C	Continuous	Grab
January thru December	QL	***	***		***	***	***			
Color (pt-co Units)	Effluent Gross Value	*****	*****	*****	*****	350 Monthly Average	500 Daily Maximum	PT-CO	1/Week	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Phosphorus, Total (as P)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Fluoride, Total (as F)	Effluent Gross Value	4257 Monthly Average	6235 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Iron, Total Recoverable	Intake	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Iron, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Iron, Total Recoverable	Effluent Net Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	Calculated
January thru December	QL	***	***		***	***	***			
Manganese, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Surfactants (mbas)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chromium Trivalent (as Cr) Total Recov.	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Arsenic, Total Recoverable (as As)	Effluent Gross Value	REPORT Monthly Average	15.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Selenium, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	3.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Barium, Total Recoverable (as Ba)	Effluent Gross Value	REPORT Monthly Average	300 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chromium, Hexavalent (as Cr)	Effluent Gross Value	2.6 Monthly Average	5.2 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	100 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nickel, Total Recoverable	Effluent Gross Value	25 Monthly Average	45 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Intake	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Zinc, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Effluent Net Value	REPORT Monthly Average	90 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Calculated
January thru December	QL	***	***		***	***	***			
Cadmium, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	3.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Lead, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	15 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chromium, Total Recoverable	Effluent Gross Value	44.2 Monthly Average	65.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Intake	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Copper, Total Recoverable	Effluent Net Value	REPORT Monthly Average	30 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Calculated
January thru December	QL	***	***		***	***	***			
Antimony, Total Recoverable	Effluent Gross Value	37.0 Monthly Average	77.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Mercury Total Recoverable	Effluent Gross Value	0.45 Monthly Average	0.91 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	10 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	RQL	***	***		***	***	***			
Methylene Chloride	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Cyanide, free	Effluent Gross Value	18.0 Monthly Average	41.1 Daily Maximum	GR/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Phenols	Effluent Gross Value	142 Monthly Average	284 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Delta BHC, Total (ug/l)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Beta Endosulfan	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Gamma BHC (lindane),	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Endosulfans, Total (alpha and beta)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
013A DSN013A	Delaware River	Mainstem Delaware-Zone 5	B - Industrial Wastewater

Location Description

Effluent sampling shall take place at the sampling station identified as DSN 013A. DSN 013A discharges at lat. 39d 41' 10" and long. 75d 30' 20". Intake sampling shall take place at Spot 101.

Contributing Waste Types

Non-contact Cooling Water, Storm Water Runoff

Surface Water DMR Reporting Requirements:

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

Comments:

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Intake	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	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	Estimated
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Daily Minimum	*****	9.0 Daily Maximum	SU	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Intake	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Net Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	50 Daily Maximum	MG/L	1/Month	Calculated
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Chlorine Produced Oxidants	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	0.2 Daily Maximum	MG/L	1/Month	Grab
January thru December	RQL	***	***		***	0.02	0.02			
Temperature, oC	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	42.8 Daily Maximum	DEG.C	1/Day	Grab
January thru December	QL	***	***		***	***	***			
Carbon, Dissolved Organic (as C)	Intake	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Carbon, Dissolved Organic (as C)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that will ensure compliance with the specified Required Quantitation Level (RQL) of 0.02 mg/l.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Carbon, Dissolved Organic (as C)	Effluent Net Value	*****	*****	*****	*****	REPORT Monthly Average	20 Daily Maximum	MG/L	1/Month	Calculated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
332A Internal Outfall	Delaware River	Mainstem Delaware-Zone 5	B - Industrial Wastewater

Location Description

Internal Point DSN 322 includes non-contact cooling water, stormwater and groundwater.

Contributing Waste Types

Non-contact Cooling Water, Storm Water Runoff

Requirements have not been defined for this Monitored Location.

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
662A Internal Monitoring	Delaware River	Mainstem Delaware-Zone 5	B - Industrial Wastewater

Location Description

Effluent sampling shall take place at the sampling station identified as DSN 662A. Influent sampling for BOD5 percent removal shall take place at Spot 529 which is located after the primary clarifiers.

Contributing Waste Types

CWT wastewater, Groundwater Remediation, Non-contact Cooling Water, OCPSF process waste, Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	Continuous	Metered
January thru December	QL	***	***		***	***	***			
BOD, 5-Day (20 oC)	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	2/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
BOD, 5-Day (20 oC)	Effluent Gross Value	2063 Monthly Average	4428 Daily Maximum	KG/DAY	*****	45 Monthly Average	121 Daily Maximum	MG/L	2/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
BOD, 5-Day (20 oC)	Percent Removal	*****	*****	*****	87.5 Monthly Av Minimum	*****	*****	PERCENT	2/Week	Calculated
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
pH	Effluent Gross Value	*****	*****	*****	6.0 Daily Minimum	*****	9.0 Daily Maximum	SU	Continuous	Grab
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	2063 Monthly Average	6601 Daily Maximum	KG/DAY	*****	56 Monthly Average	180 Daily Maximum	MG/L	2/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	775 Monthly Average	1220 Daily Maximum	KG/DAY	*****	38 Monthly Average	127 Daily Maximum	MG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Organic Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	*****	*****	*****	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	*****	*****	*****	*****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Week	Grab
January thru December	QL	***	***		***	***	***			
LC50 Stat 96hr Acu Pimephales	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
January thru December	AL	***	***		50	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Carbon, Dissolved Organic (as C)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Sulfate, Total (as SO4)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Vanadium, Total (as V)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	66.2 Monthly Average	218 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Titanium, Total (as Ti)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	61.8 Monthly Average	94.7 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Manganese, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Phenolics, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
p-Cresol	Effluent Gross Value	*****	*****	*****	*****	205 Monthly Average	698 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chromium Trivalent (as Cr) Total Recov.	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Cyanide, Total (as CN)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Arsenic, Total (as As)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	104 Monthly Average	162 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Barium, Total Recoverable (as Ba)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chromium, Total (as Cr)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	323 Monthly Average	746 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Cobalt, Total (as Co)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	124 Monthly Average	192 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total (as Cu)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	242 Monthly Average	500 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Lead, Total (as Pb)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	160 Monthly Average	350 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nickel, Total (as Ni)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	1450 Monthly Average	3950 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Silver, Total (as Ag)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	35.1 Monthly Average	120 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total (as Zn)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	420 Monthly Average	497 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Tin, Total (as Sn)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	120 Monthly Average	409 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Cadmium, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	10.2 Monthly Average	17.2 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Antimony, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	206 Monthly Average	249 Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Mercury, Total (as Hg)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	0.739 Monthly Average	2.34 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Acenaphthylene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Daily Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Acenaphthene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Daily Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Anthracene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Benzo(k)fluoranthene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Benzo(a)pyrene	Effluent Gross Value	0.8 Monthly Average	2.2 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Butyl benzyl phthalate	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	88.7 Monthly Average	188 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chrysene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Diethyl phthalate	Effluent Gross Value	2.0 Monthly Average	7.2 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Dimethyl phthalate	Effluent Gross Value	0.7 Monthly Average	1.7 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Fluoranthene	Effluent Gross Value	0.9 Monthly Average	2.5 Daily Maximum	KG/DAY	*****	26.8 Monthly Average	53.7 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Fluorene	Effluent Gross Value	0.8 Monthly Average	2.4 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Hexachloroethane	Effluent Gross Value	0.7 Monthly Average	1.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nitrobenzene	Effluent Gross Value	1.0 Monthly Average	2.4 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Phenanthrene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Pyrene	Effluent Gross Value	0.9 Monthly Average	2.4 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Benzo(a)anthracene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
1,2-Dichlorobenzene	Effluent Gross Value	2.7 Monthly Average	5.8 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,2,4-Trichloro-benzene	Effluent Gross Value	2.4 Monthly Average	5.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
1,3-Dichlorobenzene	Effluent Gross Value	1.1 Monthly Average	1.6 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,4-Dichlorobenzene	Effluent Gross Value	0.5 Monthly Average	1.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
2,4-Dinitrotoluene	Effluent Gross Value	4.0 Monthly Average	10 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
2,6-Dinitrotoluene	Effluent Gross Value	9.1 Monthly Average	22.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Naphthalene	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	4.6 Monthly Average	11.8 Daily Maximum	KG/DAY	*****	101 Monthly Average	215 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Di-n-butyl phthalate	Effluent Gross Value	1.0 Monthly Average	2.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Hexachlorobenzene	Effluent Gross Value	0.5 Monthly Average	1.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Hexachlorobutadiene	Effluent Gross Value	0.7 Monthly Average	1.7 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Acetophenone	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	56.2 Monthly Average	114 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Pyridine	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	182 Monthly Average	370 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
1,3-Dichloropropene	Effluent Gross Value	1.0 Monthly Average	1.6 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
3,4 Benzo-fluoranthene	Effluent Gross Value	0.8 Monthly Average	2.2 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Carbon Tetrachloride	Effluent Gross Value	0.6 Monthly Average	1.4 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,2-Dichloroethane	Effluent Gross Value	2.4 Monthly Average	7.5 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Chloroform	Effluent Gross Value	0.7 Monthly Average	1.6 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Toluene	Effluent Gross Value	0.9 Monthly Average	2.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Benzene	Effluent Gross Value	1.3 Monthly Average	4.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Acrylonitrile	Effluent Gross Value	3.4 Monthly Average	8.6 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Chlorobenzene	Effluent Gross Value	0.5 Monthly Average	1.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Ethylbenzene	Effluent Gross Value	1.1 Monthly Average	3.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Methyl Chloride	Effluent Gross Value	3.1 Monthly Average	6.8 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Methylene Chloride	Effluent Gross Value	1.4 Monthly Average	3.2 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Tetrachloroethylene	Effluent Gross Value	0.8 Monthly Average	2.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,1-Dichloroethane	Effluent Gross Value	0.8 Monthly Average	2.1 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,1-Dichloroethylene	Effluent Gross Value	0.6 Monthly Average	0.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,1,1-Trichloro-ethane	Effluent Gross Value	0.7 Monthly Average	1.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,1,2-Trichloro-ethane	Effluent Gross Value	0.7 Monthly Average	1.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,2-Dichloropropane	Effluent Gross Value	5.5 Monthly Average	8.2 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
1,2-trans-Dichloro-ethylene	Effluent Gross Value	0.7 Monthly Average	1.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Vinyl Chloride	Effluent Gross Value	3.7 Monthly Average	9.6 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Trichloroethylene	Effluent Gross Value	0.7 Monthly Average	1.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Methyl ethyl ketone	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	1850 Monthly Average	4810 Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Acetone	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	7970 Monthly Average	30200 Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Chloroethane	Effluent Gross Value	3.7 Monthly Average	9.6 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	Grab
January thru December	QL	***	***		***	***	***			
Delta BHC, Total (ug/l)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Quarter	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Beta Endosulfan	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Gamma BHC (lindane),	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Endosulfans, Total (alpha and beta)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
2-Chlorophenol	Effluent Gross Value	1.1 Monthly Average	3.5 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
2-Nitrophenol	Effluent Gross Value	1.5 Monthly Average	2.5 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
2,4-Dichlorophenol	Effluent Gross Value	1.4 Monthly Average	4.0 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
2,4-Dimethylphenol	Effluent Gross Value	0.6 Monthly Average	1.3 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
2,4-Dinitrophenol	Effluent Gross Value	2.5 Monthly Average	4.4 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
2,4,6-Trichloro-phenol	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	106 Monthly Average	155 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
4-Nitrophenol	Effluent Gross Value	2.6 Monthly Average	4.4 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
4,6-Dinitro-o-cresol	Effluent Gross Value	2.8 Monthly Average	9.9 Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Phenol Single Compound	Effluent Gross Value	1.5 Monthly Average	4.1 Daily Maximum	KG/DAY	*****	1080 Monthly Average	3650 Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
PFOA	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
PFNA	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Week	24 Hour Composite
January thru December	QL	***	***		***	***	***			
o-Cresol	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	561 Monthly Average	1920 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

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

Comments:

See Part IV.G.1 for additional pH conditions.

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

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
n-Decane	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	437 Monthly Average	948 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Carbazole	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	276 Monthly Average	598 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
N-Octadecane	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GR/DAY	*****	302 Monthly Average	589 Daily Maximum	UG/L	2/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water WCR - Quarterly Reporting Requirements:

Submit a Quarterly WCR: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).

Table III - E - 2: Surface Water WCR - Quarterly Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Selenium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Thallium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total Recoverable (as Be)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Hexavalent Tot Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso-propyl) ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,2-Diphenyl-hydrazine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo-pentadiene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)-pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Isophorone	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl-amine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Quarterly Reporting Requirements:

Submit a Quarterly WCR: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).

Table III - E - 2: Surface Water WCR - Quarterly Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Dibenzo(a,h) anthracene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2-Chloronaphthalene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Di-n-octyl Phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro-benzidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Malathion	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Demeton	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Mirex	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,2,4,5-Tetrachloro-benzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosopyrrolidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bromoform	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Acrolein	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chlorodibromomethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methyl Bromide	Effluent Gross Value	REPORT	UG/L	Grab	January thru December

Surface Water WCR - Quarterly Reporting Requirements:

Submit a Quarterly WCR: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).

Table III - E - 2: Surface Water WCR - Quarterly Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Trichlorofluoro-methane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro-ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Bromodichloromethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methoxychlor	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-Nitrosodi-n-butylamine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Parachloro-m-cresol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Parathion	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4,5-Trichloro-phenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endosulfan Sulfate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,3,7,8-Tetrachloro-dibenzo-p-dioxin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Quarterly Reporting Requirements:

Submit a Quarterly WCR: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).

Table III - E - 2: Surface Water WCR - Quarterly Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
4,4'-DDD(p,p'-DDD)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Aldrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Alpha BHC	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beta BHC	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chlordane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dieldrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Toxaphene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chlorpyrifos	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorobenzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Quarterly Reporting Requirements:

Submit a Quarterly WCR: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).

Table III - E - 2: Surface Water WCR - Quarterly Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 09/01/2018 **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Guthion	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Industrial Wastewater

A. MONITORING REQUIREMENTS

1. Standard Monitoring Requirements

a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.

b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136 unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.

c. When more than one test procedure is approved for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136 122.21(e)(3) and 122.44(I)(10)(IV).

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that can achieve results at or below the Required Quantitation Level (RQL) specified in Part III. If a more sensitive method is approved in 40 CFR Part 136 and a CPO value lower than the listed RQL can be achieved, then the RQL is no longer applicable and the most sensitive method must be used. If the permittee and/or contract laboratory determines that the quantitation level for CPO will not be as sensitive as the RQL specified in Part III, the permittee must submit a justification of such to the Department's Office of Quality Assurance.

d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.

e. All monitoring shall be conducted as specified in Part III.

f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.

g. Annual and semi-annual wastewater testing shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.

h. Monitoring for Wastewater Characterization Report parameters shall be conducted concurrently with the Whole Effluent Toxicity (WET) monitoring, when feasible.

i. Flow shall be measured using a flow meter at DSN 001A, DSN 002A, and DSN 662A; and an estimate at DSN 013A (based on the amount of effluent flow from cooling water equipment via pump readings). Intake flow at Spot 101 shall be estimated.

The flows from P-5 and P-6 shall be monitored individually, while the flow from B-Basin By-Pass pumps shall be measured by flowmeter 4042FG. These flows shall be added together to report the flow leaving DSN 002A.

j. Net limitations shall be calculated by using the following formula: [(gross effluent concentration) *(gross effluent flow) - (intake concentration) *(intake flow)] / [gross effluent flow].

Intake concentrations shall be measured at Spot 101. Another location may be acceptable for purposes of representative intake samples but must be approved by the Department in writing. Flow measurements for Spot 101 shall be monitored at a location that is representative of intake flow. Net limitations apply for TSS and Net monitoring applies for Copper, Iron, and Zinc at DSN 002A.

k. Monitoring for temperature shall only be conducted when cooling water is discharged during the monitoring period.

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. Please see Part II, Section B, Standard Reporting Requirements

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.

2. Delaware River Basin PCB Requirements

a. On December 15, 2003, the U.S. EPA, Regions 2 and 3, adopted a Total Maximum Daily Load (TMDL) for PCBs for Zones 2, 3, 4, and 5 of the tidal Delaware River. On December 15, 2006, the U.S. EPA, Regions 2 and 3, adopted a Total Maximum Daily Load (TMDL) for PCBs for Zone 6 (Delaware Bay). The TMDLs require the facilities identified as discharging PCBs to these zones of the Delaware River or to the tidal portions of tributaries to these zones to conduct monitoring for 209 PCB congeners, and prepare and implement a PCB Pollutant Minimization Plan (PMP).

b. Subsequent monitoring required by DRBC in 2005 confirmed the presence of PCBs and indicated that the facility was part of the group of 36 dischargers contributing to 99% cumulative loading from all point sources. Therefore, the permittee shall collect two 24-hour composite samples annually during a dry weather flow at both DSN 002A and DSN 662A.

c. All sample analyses shall be performed using EPA Method 1668A, Revision A: Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS. EPA-821-R-00-002, December 1999 as supplemented or amended, and results for all 209 PCB congeners shall be reported. Project-specific, sample collection protocols, analytical procedures, and reporting requirements at http://www.nj.gov/drbc/quality/toxics/pcbs/monitoring.html shall be followed. Monitoring information, sample data, and reports associated with PCB monitoring shall be submitted to the Department and DRBC in the form of two compact discs in the format referenced at http://www.nj.gov/drbc/library/documents/PCB-EDD011309.pdf.

d. In accordance with the U.S. EPA Regions 2 and 3 Total Maximum Daily Loads (TMDLs) for PCBs for Zones 2-5 of the Tidal Delaware River, the permittee submitted a Pollutant Minimization Plan (PMP) for PCBs which was approved on July 6, 2008. The permittee shall continue to comply with the requirements of Section 4.30.9 of DRBC's Water Quality Regulations. Therefore, the permittee shall:.

   i. Continue to implement the PMP to achieve PCB loading reduction goals, and;

   ii. Submit an Annual Report on the yearly anniversary of the commencement of the PMP to DRBC consistent with the guidance specified at http://www.nj.gov/drbc/programs/quality/pmp.html.

e. The PCB data shall be submitted to the DRBC only. The PMP Annual Reports shall be submitted to the following:.

   i. Delaware River Basin Commission
   Modeling, Monitoring & Assessment Branch
   P.O. Box 7360
   West Trenton, NJ 08628

E. FACILITY MANAGEMENT

1. Discharge Requirements

a. The permittee shall discharge at the location(s) specified in PART III of this permit.

b. The permittee shall not discharge foam or cause foaming of the receiving water that: 1) Forms objectionable deposits on the receiving water, 2) Forms floating masses producing a nuisance, or 3) Interferes with a designated use of the waterbody.

c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.

d. The discharge shall not exhibit a visible sheen.

e. The Permittee is authorized to use the corrosion inhibitors, biocides, and other cooling water additives listed in Appendix B of the permit.

2. Delaware River Basin Commission (DRBC)

a. The permittee shall comply with the Delaware River Basin Commission (DRBC) "Water Quality Regulations.".

b. The Delaware River Basin Commission (DRBC) 20-day Carbonaceous Biochemical (first-stage) Oxygen Demand (CBOD 20) wasteload allocation of 6364 kilograms per day as a monthly average value, (equivalent to the monthly average BOD5 mass effluent limit, in Part III) shall not be exceeded. The CBOD 20 effluent value may be calculated by multiplying the measured effluent CBOD5 by a CBOD 20/CBOD5 mass ratio of 1.5 developed for this discharge by DRBC.

3. Applicability of Discharge Limitations and Effective Dates

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

i. The final effluent limitations and monitoring conditions contained in PART III for DSN 001A, DSN 002A, DSN662A, and DSN 013A apply for the full term of this permit action.

b. Wastewater Characterization Report (WCR) Form Requirements

i. The final effluent monitoring conditions contained in PART III for DSN 662A apply for the full term of this permit action.

4. Operation, Maintenance and Emergency conditions

a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit as specified in the Operation & Maintenance Manual.

b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with NJAC 7:14A-6.12(d).

5. Toxicity Testing Requirements - Acute Whole Effluent Toxicity (DSN 002A and DSN 662A)

a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.

b. Acute toxicity tests shall be conducted using the test species and method identified in Part III of this permit.

c. Part III of this permit contains an Action Level (AL) for acute Whole Effluent Toxicity for DSN 662A. Toxicity Reduction and Implementation Requirements may be triggered based on exceedences of this Action Level. 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. The permittee shall resubmit an Acute Methodology Questionnaire within 60 days of any change in laboratory.

f. Submit an acute whole effluent toxicity test report: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP) for DSN 002A and 662A. The permittee shall submit toxicity test results on appropriate forms. (Activity #: DSW160001 - Effective: 4/1/2018)

g. Test reports shall be submitted to:

i. New Jersey Department of Environmental Protection
401-02B
Division of Water Quality
Bureau of Surface Water Permitting
401 East State Street
P.O. Box 420
Trenton, New Jersey 08625-0420

6. Toxicity Testing Requirements - Chronic Whole Effluent Toxicity (DSN 002A Only)

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. When reporting to the DRBC, sample results shall be expressed as No Observed Effect Concentration (NOEC).

g. The permittee shall resubmit a Chronic Methodology Questionnaire within 60 days of any change in laboratory.

h. Submit a chronic whole effluent toxicity test report: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP). The permittee shall submit toxicity test results on appropriate forms. (Activity #: DSW160001 - Effective: 4/1/2018)

i. Test reports shall be submitted to:

i. New Jersey Department of Environmental Protection
Mail Code 401-02B
Division of Water Quality
Bureau of Surface Water Permitting
401 East State Street
P.O. Box 420
Trenton, New Jersey 08625-0420.

ii. Delaware River Basin Commission (DRBC)
P. O. Box 7360
West Trenton, New Jersey 08628

7. Toxicity Reduction Implementation Requirements (TRIR)

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 or action level specified in Part III of this permit.

i. If the exceedence of the toxicity limit or action level is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.

b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limits or action levels in Part III. The monitoring frequency for toxicity testing shall be increased to monthly. 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 or action level.

ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit or action level in Part III, the permittee shall repeat the Toxicity Reduction Implementation Requirements.

c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the third exceedence of the toxicity limit or action level specified in Part III during toxicity characterization.

i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.

ii. As appropriate, the PTI shall include:
(1) treatment plant performance evaluation,
(2) pretreatment program information,
(3) evaluation of ammonia and chlorine produced oxidants levels and their effect on the toxicity of the discharge,
(4) evaluation of chemical use and processes at the facility, and
(5) an evaluation of incidental facility procedures such as floor washing, and chemical spill disposal which may contribute to effluent toxicity.

iii. If the permittee demonstrates that the cause of toxicity is the chlorine added for disinfection or the ammonia concentration in the effluent and the chlorine and/or ammonia concentrations are below the established water quality based effluent limitation for chlorine and/or ammonia, the permittee shall identify the procedures to be used in future toxicity tests to account for chlorine and/or ammonia toxicity in their preliminary toxicity identification report.

iv. 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 or action level in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.

e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit or action level in Part III can not be made.

   i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.

   ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit or action level in Part III , a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.

   iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.

   iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.

f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.

   i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit or action level in Part III in four consecutive toxicity tests.

   ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit or action level in Part III, the permittee shall submit a plan for resuming the CTI.

   iii. Documents regarding Toxicity Investigations shall be sent to the following:
   New Jersey Department of Environmental Protection
   Mail Code401-02B
   Division of Water Quality
   Bureau of Surface Water Permitting
   401 East State Street
   P.O. Box 420
   Trenton, New Jersey 08625-0420.

F. CONDITIONS FOR MODIFICATION

1. Notification requirements

a. The permittee may request a minor modification for a reduction in monitoring frequency for a non-limited parameter when four consecutive test results of "not detected" have occurred using a sufficiently sensitive quantification level as defined at 40 CFR 136, 40 CFR 122.21(e)(3), and 40 CFR 122.44(i)(1)(iv).

2. 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 permittee may request a minor modification to eliminate the monitoring requirements associated with a discharge authorized by this permit when the discharge ceases due to changes at the facility.

G. Custom Requirement

1. pH Requirement

a. DSN 002A and 662A - pH shall be measured as a gross value and shall be within the range of 6.0 to 9.0 standard units 99% of the time on a monthly basis. The total time during which pH may be outside the specified range may not exceed an aggregate of 7 hours and 26 minutes in any calendar month and no individual excursion from the specified range shall exceed 60 minutes. Any discharge outside the specified range shall be subject to the notification requirements of N.J.A.C. 7:14A-6.10.

2. Additional Whole Effluent Toxicity Sampling

a. The required acute WET testing of the Chemours effluent shall be accompanied by measurements of conductivity for both the Delaware River intake water as well as the treated effluent. If it is determined that an elevated level of acute toxicity in the effluent can be attributed to conductivity levels of 4000 umhos/cm or greater in the river intake water, the test result shall be deemed invalid for compliance purposes, unless it is determined that the test result is attributable to operations at the facility.

Where an acute WET test result for the Chemours effluent exceeds LC50 > 50% when conductivity of the Delaware River intake water equals or exceeds 4,000 umhos/cm, Chemours shall provide data for that test showing the level of conductivity in both the intake water and the effluent, and provide an analysis of other effluents or operating data for use in evaluating whether the elevated effluent acute toxicity is attributable to the conductivity of the intake water or to plant processes.

3. Centralized Waste Treatment Certification and Equivalent Treatment Determination

a. In accordance with 40 CFR 437.41(b), once a year the permittee shall submit a periodic certification statement as defined at 40 CFR 437.41(b). Such reports are due at the effective date of the permit (EDP) + 1 year, EDP + 2 years, EDP + 3 years, EDP + 4 years and EDP + 5 years. If the permit continues in effect past the expiration date pursuant to N.J.A.C. 7:14A-2.8, such certification statement must continue to be submitted at EDP + 6 years and every year thereafter. This certification statement shall be sent to:

NJDEP
Bureau of Surface Water Permitting
Mailcode: 401-02B
P.O. Box 0420, 401 East State Street
Trenton, NJ 08625-0420.

4. In-Plant Limits for Cyanide

a. As per the Centralized Waste Treatment Effluent Limitation Guideline at 40 CFR Part 437.42(b)(2), in-plant limitations of 178 mg/L as a monthly average and 500 mg/L as a daily maximum apply to metal-bearing wastewater containing cyanide.

5. Best Management Practices (BMPs) for Outfall HC 01

a. The permittee shall use Best Management Practices" in the Barricade Area and surrounding areas to insure there is no exposure of source materials that can be picked up by stormwater runoff and discharged via Outfall HC01 to Henby Creek.

6. Standard DRBC Conditions

a. Except as otherwise authorized by this permit, if the permittee seeks relief from any limitation based upon a Delaware River Basin Commission water quality standard or minimum treatment requirement, the permittee shall apply for approval from the Delaware River Basin Commission Executive Director and the Department for a permit revision.

b. Under Section 2.3.5.A.18 of the Commission's Rules of Practice and Procedure, facilities such as the Chambers Works Industrial Wastewater Treatment Plant (IWTP) that utilize an average of 50,000 gpd or more of their treatment capacity for wastewater from out-of-basin sources are subject to project review under Section 3.8 of the Compact. Chambers Works formerly received approximately 100,000 gpd of out-of-basin commercial waste. The acceptance of out-of-Basin wastes for treatment at the IWTP was approved by the DRBC in Dockets Nos. D-1988-085-1, D-1988-085-2 and D-1988-85-3. Accordingly, Chambers Works is authorized by DRBC to accept greater than 50,000 gpd of out-of-Basin wastes.

c. Based upon the written recommendation of the DRBC staff, when the discharge is operated in accordance with the provisions and conditions established by this permit, then with respect to effluent quality and stream quality objectives, the project does not substantially impair or conflict with the Commission's Comprehensive Plan.

7. Perfluorinated Compound (PFC) Sampling for DSN 662A

a. The permittee shall sample for Perfluorinated Compounds (PFCs) at DSN 662A on a weekly basis. The following compounds shall be sampled:

C4 – Perfluorobutanoate (PFBA)
C5 – Perfluoro-n-pentanoic acid (PFPeA)
C6 – Perfluorohexanoic acid (PFHxA)
C7 – Perfluoroheptanoic acid (PFHpA)
C8 – Perfluorooctanoic acid (PFOA)
C9 – Perfluorononanoic acid (PFNA)
C10 – Perfluorodecanoic acid (PFDA)
C11 – Perfluoroundecanoic acid (PFUnA)
C12 – Perfluorododecanoic acid (PFDoA)
C13 – Perfluorotridecanoic acid (PFTriA)
C14 – Perfluorotetradecanoic acid (PFTeA)
C4-S – Perfluorobutanesulfonic acid (PFBS)
C6-S – Perfluorohexanesulfonic acid (PFHxS)
C8-S – Perfluorooctanesulfonic acid (PFOS)
Perfluorooctanesulfonamide (PFOSA)
Hexafluoropropylene oxide-Dimer Acid

The sample shall be analyzed by a New Jersey certified laboratory which can detect all the above listed PFCs, and is certified for analyzing these compounds in wastewater (NPW). A list of certified laboratories can be obtained at http://www.nj.gov/dep/oqa/certlabs.htm. The permittee shall ensure that the method used provides sufficiently low detection levels. A detection level of less than any drinking water criteria would be sufficient to determine if the PFC is detected in the effluent.

i. The sample data shall be submitted to the Department 25 days after each month and shall include all sample results. The sample data shall be sent to the following addresses:

NJDEP
Bureau of Surface Water Permitting
Mail Code 401-02B
P.O. Box 420
Trenton, NJ 08625-0420

Department of Environmental Protection
Sit Remediation & Waste Management Program
Bureau of Case Management
Mail Code 401-05F
P. O. Box 420
Trenton, New Jersey 08625-0420.

8. Section 316(b) Requirements

a. Source Water Physical Data - 40 CFR 122.21(r)(2) requires the following for industrial facilities:.

i. A narrative description and scaled drawings showing the physical configuration of all source water bodies used by your facility, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports your determination of the water body type where each cooling water intake structure is located;.

ii. Identification and characterization of the source waterbody's hydrological and geomorphological features, as well as the methods you used to conduct any physical studies to determine your intake's area of influence within the waterbody and the results of such studies; and.

iii. Locational maps.

iv. The Department has determined that the requirements of 40 CFR 122.21(r)(2) have been satisfied by the March 1, 2016 submission.

b. Cooling Water Intake Structure Data – 40 CFR 122.21(r)(3) requires the following:.

i. A narrative description of the configuration of each of your cooling water intake structures and where it is located in the water body and in the water column;.

ii. Latitude and longitude in degrees, minutes, and seconds for each of your cooling water intake structures;.

iii. A narrative description of the operation of each of your cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation and seasonal changes, if applicable;.

iv. A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges; and.

v. Engineering drawings of the cooling water intake structure.

vi. The Department has determined that the requirements of 40 CFR 122.21(r)(3) have been satisfied by the March 1, 2016 submission.

c. Source Water Baseline Biological Characterization Data – 40 CFR 122.21(r)(4) requires the following:.

i. A list of the data in paragraphs (r)(4)(ii) through (vi) of this section that are not available and efforts made to identify sources of the data;.

ii. A list of species (or relevant taxa) for all life stages and their relative abundance in the vicinity of the cooling water intake structure;.

iii. Identification of the species and life stages that would be most susceptible to impingement and entrainment. Species evaluated should include the forage base as well as those most important in terms of significance to commercial and recreational fisheries;.

iv. Identification and evaluation of the primary period of reproduction, larval recruitment, and period of peak abundance for relevant taxa;.

v. Data representative of the seasonal and daily activities (e.g., feeding and water column migration) of biological organisms in the vicinity of the cooling water intake structure;.

vi. Identification of all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at your cooling water intake structures;.

vii. Documentation of any public participation or consultation with Federal or State agencies undertaken in development of the plan; and.

viii. If you supplement the information requested in paragraph (r)(4)(i) of this section with data collected using field studies, supporting documentation for the Source Water Baseline Biological Characterization must include a description of all methods and quality assurance procedures for sampling, and data analysis including a description of the study area; taxonomic identification of sampled and evaluated biological assemblages (including all life stages of fish and shellfish); and sampling and data analysis methods. The sampling and/or data analysis methods you use must be appropriate for a quantitative survey and based on consideration of methods used in other biological studies performed within the same source water body. The study area should include, at a minimum, the area of influence of the cooling water intake structure.

ix. In the case of the owner or operator of an existing facility or new unit at an existing facility, the Source Water Baseline Biological Characterization Data is the information in paragraphs (r)(4)(i) through (xii) of this section.

x. For the owner or operator of an existing facility, identification of protective measures and stabilization activities that have been implemented, and a description of how these measures and activities affected the baseline water condition in the vicinity of the intake.

xi. For the owner or operator of an existing facility, a list of fragile species, as defined at 40 CFR 125.92(m), at the facility. The applicant need only identify those species not already identified as fragile at 40 CFR 125.92(m). New units at an existing facility are not required to resubmit this information if the cooling water withdrawals for the operation of the new unit are from an existing intake.

xii. For the owner or operator of an existing facility that has obtained incidental take exemption or authorization for its cooling water intake structure(s) from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, any information submitted in order to obtain that exemption or authorization may be used to satisfy the permit application information requirement of paragraph 40 CFR 125.95(f) if included in the application.

xiii. The Department has determined that the requirements of 40 CFR 122.21(r)(4) have been satisfied by the March 1, 2016 submission.

d. Cooling Water System Data – 40 CFR 122.21(r)(5) requires the following:.

i. A narrative description of the operation of the cooling water system and its relationship to cooling water intake structures; the proportion of the design intake flow that is used in the system; the number of days of the year the cooling water system is in operation and seasonal changes in the operation of the system, if applicable; the proportion of design intake flow for contact cooling, non-contact cooling, and process uses; a distribution of water reuse to include cooling water reused as process water, process water reused for cooling, and the use of gray water for cooling; a description of reductions in total water withdrawals including cooling water intake flow reductions already achieved through minimized process water withdrawals; a description of any cooling water that is used in a manufacturing process either before or after it is used for cooling, including other recycled process water flows; the proportion of the source waterbody withdrawn (on a monthly basis);.

ii. Design and engineering calculations prepared by a qualified professional and supporting data to support the description required by paragraph (r)(5)(i) of this section; and.

iii. Description of existing impingement and entrainment technologies or operational measures and a summary of their performance, including but not limited to reductions in impingement mortality and entrainment due to intake location and reductions in total water withdrawals and usage.

iv. The requirements of 40 CFR 122.21(r)(5) have been satisfied by the March 1, 2016 submission.

e. Chosen Method(s) of Compliance with Impingement Mortality Standard – submit the following information in accordance with 40 CFR 122.21(r)(6):.

i. The owner or operator of the facility must identify the chosen compliance method for the entire facility; alternatively, the applicant must identify the chosen compliance method for each cooling water intake structure at its facility. The applicant must identify any intake structure for which a BTA determination for Impingement Mortality under 40 CFR 125.94 (c)(11) or (12) is requested. In addition, the owner or operator that chooses to comply via 40 CFR 125.94 (c)(5) or (6) must also submit an impingement technology performance optimization study.

ii. The Department has determined that the requirements of 40 CFR 122.21(r)(6) have been satisfied by the March 1, 2016 and the July 27, 2017 submissions.

f. Entrainment Performance Studies – 40 CFR 122.21(r)(7) requires the following:.

i. The owner or operator of an existing facility must submit any previously conducted studies or studies obtained from other facilities addressing technology efficacy, through-facility entrainment survival, and other entrainment studies. Any such submittals must include a description of each study, together with underlying data, and a summary of any conclusions or results. Any studies conducted at other locations must include an explanation as to why the data from their locations are relevant and representative of conditions at your facility. In the case of studies more than 10 years old, the applicant must explain why the data are still relevant and representative of conditions at the facility and explain how the data should be interpreted using the definition of entrainment at 40 CFR 125.92(h).

ii. The Department has determined that the requirements of 40 CFR 122.21(r)(7) have been satisfied by the March 1, 2016 submission as no historic entrainment performance studies have been conducted.

g. Operational Status – 40 CFR 122.21(r)(8) requires a description of the operational status of each generating, production, or process unit that uses cooling water as follows:.

i. For process units at your facility that use cooling water other than for power production or steam generation, if you intend to use reductions in flow or changes in operations to meet the requirements of 40 CFR 125.94(c), descriptions of individual production processes and product lines, operating status including age of each line, seasonal operation, including any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors, any major upgrades completed within the last 15 years, and plans or schedules for decommissioning or replacement of process units or production processes and product lines;.

ii. For all manufacturing facilities, descriptions of current and future production schedules; and.

iii. Descriptions of plans or schedules for any new units planned within the next 5 years.

iv. The Department has determined that the requirements of 40 CFR 122.21(r)(8) have been satisfied by the March 1, 2016 submission.

APPENDIX A:

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 3.0

May 2017

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- **E.** Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
- **F.** *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0

VIII. REFERENCES

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

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-6.5(a)2 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, constitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements and outline and implement the interlaboratory Standard Reference Toxicant Program until specific chronic requirements are incorporated into the laboratory certification regulations under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and method specifications (test organism specific) contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

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

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

This document constitutes the fifth version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

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

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. The Department recommends the use of the 5 standard dilutions plus a dilution water control to cover the entire range of effluent test concentrations e.g. 0%, 6.25%, 12.5%, 25%, 50%, 100%.

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

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

C. DILUTION WATER

1. Marine and Estuarine Waters

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

The standard test salinity shall be 25 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 µg/l selenium (2 µg/l selenium with natural water) and 1 µg/l vitamin B12 is recommended (Keating and Dagbusan, 1984: Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department through the completion of a Whole

Effluent toxicity testing methodology questionnaire. Reconstituted water and DMW should be prepared with Millipore Super Q^{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 continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. Unless otherwise specified, three samples shall be collected as specified above, preferably one every other day. The first sample should be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample should be used for the final three renewals. For the *Selenastrum* test, a single sample shall be collected not more than 24 hours prior to test initiation. In no case, shall more than 36 hours' elapse between collection and first use of the sample. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

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

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. When a laboratory adjusts a freshwater effluent salinity and the pH of the test concentration changes more than 0.5 pH units from the initial pH, the laboratory shall readjust the pH of the test concentration to within 0.5 pH units of the original test concentration. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows unless more stringent criteria is required by the method:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of each test concentration and the control. In order to ensure that measurements for these parameters are representative of the test concentrations during the test, measurements for these parameters should be taken in an additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.

- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning and end of each 24 hr exposure period in at least one replicate for each treatment.

- Salinity shall be measured in all salt water tests at the beginning and end of each 24 hour exposure period, in at least one replicate for each treatment.

- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.

- When natural salt water is used; nitrite, nitrate, and ammonia shall be measured in the control before each renewal in the mysid test only.

- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

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

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

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

For point estimate techniques, statistical analysis must follow the protocol contained in the approved testing method. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's “NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf for further information.

If the result reported by the ICp method is greater than 100% effluent, the test result is reported as ">100%"

If separate IC25's can be calculated from multiple test endpoints, for example a reproductive and/or growth endpoint and a survival endpoint, the lowest IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the IC25 value for the test. If the IC25 value for growth and/or reproduction is not lower than that for survival, the 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 the test acceptability criteria of the chronic toxicity method will not be used by the Department for any purpose and must be repeated as soon as practicable, with freshly collected samples.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for chronic toxicity testing under N.J.A.C. 7:18.

2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen samples, not refrigerating samples upon collection, or unapproved pretreatment of an effluent sample.

3. Controls shall meet, at a minimum, the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.

4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.

5. No unapproved deviations from the applicable test methodology may be present.

6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

7. If more stringent criteria are required within the chronic toxicity test method or rule, the more stringent criteria must be met.

Table 2.0: CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
Pimephales promelas	80%	0.25 mg avg	N/A
Ceriodaphnia dubia	80%	N/A	Average of $\geq$15 young per surviving female
Selenastrum capricornutum	Density $\geq 2x10^5$cells/ml	N/A	Variability in controls not to exceed 20%.
Cyprinodon variegatus	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
Menidia beryllina	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
Mysidopsis bahia	80%	0.20 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.

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

IV. STANDARD REFERENCE TOXICANT TESTING

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

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward results of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to the Department's laboratory certification program prior to obtaining certification for chronic toxicity testing. Certification for the applicable chronic toxicity method must be obtained prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

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

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing must be conducted at least once per month for each species/method.

2. Where the laboratory purchases organisms for the conduct of chronic toxicity testing for the test organism in question, the testing laboratory must conduct a concurrent SRT per lot of organisms, unless the supplier provides at least the most recent five monthly SRT's using the same toxicant and control conditions. SRT data provided by the supplier for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the supplier for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.

3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a monthly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.

4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.

5. If a testing laboratory conducts testing for a species/method less frequently than monthly, then an SRT shall be run concurrent with the toxicity test.

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

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

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

1. A series of at least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.

2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

D. CONTROL CHARTS

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

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.

2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.

3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.

4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.

5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

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

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

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.

2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.

3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any twenty tests, the laboratory shall investigate sources of variability, take corrective actions to reduce identified sources of variability, and perform an additional SRT during the same month. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any twenty test results which are outside the established upper and lower limits for a specific test species, the laboratory shall cease to conduct chronic toxicity tests for compliance purposes for that test species until the reason(s) for the outliers have been resolved. Approval to resume testing may be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

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

V. TEST CANCELLATION / RESCHEDULING EVENTS

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

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

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

VI. REPORTING

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

New Jersey Department of Environmental Protection
Water Pollution Management Element
Bureau of Surface Water Permitting
Division of Water Quality
Biomonitoring Program
Mail Code – 401-02B
PO Box 420
Trenton, NJ
08625-0420

In addition, the results of all chronic toxicity tests conducted must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

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

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

VIII. REFERENCES

1. NJPDES Monitoring Report Form Reference Manual October 2007 http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf

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

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

New Jersey Department of Environmental Protection
Water Pollution Management Element
Bureau of Surface Water Permitting
Division of Water Quality
Biomonitoring Program
Mail Code – 401-02B
PO Box 420
Trenton, NJ 08625-0420

CHRONIC WHOLE EFFLUENT TOXICITY TESTING
TEST CANCELLATION / RESCHEDULING EVENT FORM

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

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: _____/_____/_____ TEST END DATE: _____/_____/_____

REASON FOR CANCELLATION: _____

_____

_____

_____

When is retest scheduled to be performed?

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

_____

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

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

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

_____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.

APPENDIX B

Approved Corrosion Inhibitors, Biocides, or Additives to be Used at Chemours Chambers Works Facility (date approved by Department if known)

1	GE Hypersperse MDC775– membrane deposit control – 8/24/2015
2	GE Inhibitor AZ8104– water-based corrosion inhibitor – 8/24/2015
3	GE Gengard GN8141– corrosion inhibitor – 8/24/2015
4	Chemtreat CN135 – sulfamic acid-based water treatment equipment cleaner – 8/24/2015
5	Chemtreat ML5101 – scale inhibitor for landfill leachate – 6/8/2015
6	Chemtreat P873L – flocculent for wastewater treatment – 6/8/2015
7	Chemtreat P812A – flocculent for drinking water treatment – 6/8/2015
8	Chemtreat P880L – flocculent for wastewater treatment – 6/8/2015
9	Millsperse 813 – scale inhibitor for landfill leachate – 6/8/2015
10	ChemTreat CL4635 – 12/30/2014
11	ChemTreat CL4428 – 12/30/2014
12	GE Power & Water product Solus AP25 – 12/5/2014
13	Ashland Advantage 831 – 9/17/2014
14	Solenis Advantage NF1038 – 9/17/2014
15	Solenis Advantage NF2177 – 9/17/2014
16	ChemTreat CL-49 (previously approved)
17	ChemTreat BL-1253 – 6/6/2013
18	ChemTreat BL-1770 – 6/6/2013
19	GE/Betz Spectrus NX1100 – 6/6/2013
20	GE/Betz Spectrus BD1501 – 6/6/2013
21	GE/Betz Kleen MCT103 – 6/6/2013
22	GE/Betz Kleen MCT107 – 6/6/2013
23	GE/Betz Depositrol PY5206 – 6/6/2013
24	GE/Betz Solisep MPT 134 – 6/6/2013
25	GE/Betz Hypersperse MDC150 – 6/6/2013
26	Sodium Hypochlorite – 6/6/2013
27	Morton Solar salt – 6/6/2013

28	Chemtreat BL-1559 – 5/25/2012
29	Chemtreat CL-4891 – 5/25/2012
30	Chemtreat CT-708 – 5/25/2012
31	Chemtreat C-2189T – 5/25/2012
32	Chemtreat CL-4125 – 5/25/2012
33	Chemtreat BL-1283 – 5/25/2012
34	BIOCHEK 430
35	Kathon™LX Microbiocide
36	Acticide MBS
37	Spectrus OX103
38	GE/Betz Spectrus NX1100
39	Chemtreat C-2189T
40	CL206
41	Chemtreat CL49
42	HTH (Calcium hypochlorite)
43	Aluminum sulfate
44	Tetrapotassium pyrophosphate
45	GE Betz ContinuumAE230 Corrosion Inhibitor
46	Gengard GN8106
47	Optisperse AP0300
48	Chemtreat CL4432
49	CT62
50	CT904
51	CT709
52	P817E
53	BL1260
54	RL9004
55	RL124
56	RL1500
57	RL2106
58	CL206

59	RL120
60	Chemtreat CL4428
61	Chemtreat CL241
62	Chemtreat P822L
63	CORTROL OS5300
64	Solenis (formerly Ashland) ED7250
65	Solenis (formerly Ashland) ED750
66	Hychem Hyperfloc CE 2041
67	Hychem Hyperfloc AE 843
68	Hychem Hyperfloc CP 781