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

PUBLIC NOTICE

Notice is hereby given that the New Jersey Department of Environmental Protection (Department) proposes to renew the New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) Permit NJ0005100 in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq., for the following discharge:

Permittee	Facility
Chemours Co FC LLC Chambers Works 67 Canal Road P.O. Box 9001 Deepwater, NJ 08023	Chambers Works Route 130 Deepwater, Salem County

The facility discharges stormwater, non-contact cooling water, steam condensate, excess river water, wastewater treatment plant effluent, groundwater (from natural percolation), research and development laboratory wastewater, hazardous and non-hazardous leachate, and remediation waters. The final discharge points, DSN 001A, DSN 002A, and DSN 013A discharge into the Delaware River which is classified as Zone 5 waters. The Delaware River is located within the Lower Delaware River Basin and is a tributary to the Delaware Bay. The existing facility has a long-term average flow value of 19.73 million gallons per day (MGD) for DSN 002A.

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

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

Written comments or a request that the Department hold a non-adversarial public hearing on the draft document must be submitted in writing to Susan Rosenwinkel, Acting Bureau Chief, or Attention: Comments on Public Notice NJ0005100, at Mail Code 401-02B, Division of Water Quality, Bureau of Surface Water Permitting, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period, which closes thirty calendar days after publication of this notice in the newspaper. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

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

List of Acronyms

AML	Average Monthly Limitation
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	Effective Date of the Permit
EDPM	Effective Date of the Permit Modification
EEQ	Existing Effluent Quality
ELG	Effluent Limitation Guideline
g/d or g/day	Grams per Day
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
NJPDES	New Jersey Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyls
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
RTR	Residuals Transfer Report
RWBR	Reclaimed Water for Beneficial Reuse
SIU	Significant Indirect User
SWQS	Surface Water Quality Standards
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
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
WCR	Wastewater Characterization Report
WER	Water Effects Ratio
WET	Whole Effluent Toxicity
WLA	Wasteload Allocation
WQBEL	Water Quality Based Effluent Limitation

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

FACT SHEET

Masterfile #: 15645 **PI #:** 46287

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

PERMIT ACTION: Surface Water Renewal Permit Action

The permittee (abbreviated as Chemours or ChambersWorks) has applied for a New Jersey Pollutant Discharge Elimination System (NJPDES) Surface Water Renewal Permit Action through an application dated February 26, 2016 The Department issued a minor modification to this facility on February 1, 2015 to change the name from DuPont to Chemours. The existing permit was issued to DuPont on July 20, 2011.

1 Name and Address of the Applicant:

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

2 Name and Address of the Facility/Site:

Chambers Works
Route 130
Pennsville Twp, Salem County

3 Facility Description:

The Chemours Chambers Works facility encompasses an area of approximately 1,455 acres in Pennsville and Carney's Point Townships. The facility has operated continuously since 1917. The Chambers Works facility is a multiproduct chemical manufacturing plant including, but not limited to: hydrochlorofluorocarbons, elastomers, polymers, specialty chemicals and intermediates. The Standard Industrial Classification (SIC) codes for this facility are 2869, 2865, 2843 and 2821.

The facility is classified as a major discharger by the Department of Environmental Protection (Department) in accordance with the United States Environmental Protection Agency (EPA) rating criteria. The wastewater treatment plant receives wastewater primarily from manufacturing operations but has received and treated commercial off-site wastes.

The facility discharges stormwater, non-contact cooling water, steam condensate, excess river water, wastewater treatment plant effluent, groundwater (from natural percolation), research and development laboratory wastewater, hazardous leachate, and remediation waters. The final discharge points, discharge serial number (DSN) 001A, DSN 002A, and DSN 013A discharge into the Delaware River which is classified as Zone 5 waters. The Delaware River is located within the Lower Delaware River Basin and is a tributary to the Delaware Bay. The existing facility has a long-term average flow value of 19.73 million gallons per day (MGD) for DSN 002A which is the primary outfall.

The Chambers Works plant currently includes the following operations:

- Aramid Intermediates Manufacturing – a tenant facility operated by DowDuPont
- Performance Chemicals Manufacturing – Chemours

- Fluorochemicals Manufacturing - Chemours
- Polymer Manufacturing – Chemours and tenant facility operated by DowDuPont
- Research and Development Laboratories – Chemours
- Research and Development Laboratories - tenant facility operated by DowDuPont
- Water Treatment Plant - Chemours
- Wastewater Treatment Plant – Chemours
- Hazardous and Non-hazardous waste landfills - Chemours
- Hazardous Waste Storage - Chemours
- Remediation Activities – Chemours

In addition, the Chambers Cogeneration Power Facility and the Praxair Industrial Gas manufacturing Facility are located on Chemours property and support Chambers Works activities but are not operated by Chemours. Both facilities discharge wastewater to the Chambers Works wastewater treatment plant via pipeline. The adjacent Calpine Deepwater Generating Station (at which the Chambers Works river water intake equipment is located) sends a small volume of sanitary wastewater to Chambers Works via the power house and will continue to do so until completion of its planned demolition and dismantlement work.

A schematic of the facility's treatment and a site plan of the facility are included near the end of the fact sheet.

There is a possibility of Chemours accepting sanitary wastewater from nearby sanitary treatment plants. If this occurs in the future, Chemours is required to request a NJPDES permit modification, in accordance with N.J.A.C. 7:14A-16.4, which shall include loading allocations for BOD5 and TSS loadings at DSN 662A.

4 Description of Intake Water Sources:

Water intake is from two main sources. The first source is fresh water from the Salem Canal which comprises approximately 5 to 6 MGD. Canal water for plant use is treated by screening, chlorine disinfection, coagulation, flocculation, neutralization, mixing, settling, and rapid sand filtration before distribution to plant processes. A minor amount of intake water is further treated by pH adjustment, chlorine addition, and carbon adsorption for sanitary use. Salem Canal water can also be supplied to the Chambers Works river water distribution system.

The second and larger source of water is the Delaware River at Intake 101, which is located at the adjacent Deepwater Energy Center facility (NJPDES Permit No. NJ0005363). This intake and its associated piping and pumps are owned by Chemours, and therefore regulated separately from the adjacent intakes owned by the Deepwater Energy Center. Approximately 16 to 28 MGD is taken from the Delaware River at Intake 101. The surface water intake source is equipped with traveling screens with fish buckets and a fish return system. This water is treated by the addition of a dispersant/flocculant and an initial shock treatment of hypochlorite. This subject permit renewal contains requirements for the federal regulations for Section 316(b) of the Clean Water Act.

5 Receiving Water Discharge Location Information:

A copy of the appropriate section of a USGS quadrangle map indicating the location of the facility and discharge point is included towards the end of this Fact Sheet.

Outfall Designator: 001A Wet Weather Overflow Outfall (B-Basin)			
General Information		**Watershed Information**	
Receiving Water:	Delaware River	Downstream Confluences:	Delaware Bay
Via:	Outfall Pipe	Receiving River Basin:	Delaware River
Classification (a):	Zone 5	WMA (b):	17
Latitude:	39° 41' 55"	Watershed:	Pennsville / Penns Grove tribs

Longitude:	75° 30' 20"	Subwatershed:	LDRV tribs (Lakeview Ave to Oldmans Ck)
County:	Salem	HUC 14 (c):	02040206020010
Municipality:	Pennsville	Water Quality Impairments (d):	Mercury in fish tissue, Dieldrin, DDT in fish tissue, Chlordane in fish tissue, Copper, DO, Temperature, Turbidity
Outfall Description			
Outfall Configuration:	Partially Submerged Wood Stave Pipe	Submerged Pipe Characteristics:	Approximately 50 feet offshore

Outfall Designator: 002A Primary Outfall with Diffuser			
Receiving Water:	Delaware River	Downstream Confluences:	Delaware Bay
Via:	Diffuser Outfall	Receiving River Basin:	Delaware River
Classification (a):	Zone 5	WMA (b):	17
Latitude:	39° 41' 53.73"	Watershed:	Pennsville / Penns Grove tribs
Longitude:	75° 30' 35.33"	Subwatershed:	LDRV tribs (Lakeview Ave to Oldmans Ck)
County:	Salem	HUC 14 (c):	02040206020010
Municipality:	Pennsville	Water Quality Impairments (d):	Mercury in fish tissue, Dieldrin, DDT in fish tissue, Chlordane in fish tissue, Copper, DO, Temperature, Turbidity
Outfall Description			
Outfall Configuration:	Submerged Pipe	Submerged Pipe Characteristics:	Approximately 1300 feet offshore and 33 feet deep
Applicable Receiving Water Dilution Factors			
Acute:	18		

Outfall Designator: DSN 013A Non-Contact Cooling Water (NCCW) and Power House Stormwater			
General Information		**Watershed Information**	
Receiving Water:	Delaware River	Downstream Confluences:	Delaware Bay
Via:	Outfall Pipe	Receiving River Basin:	Delaware River
Classification:	Zone 5	WMA (b):	17
Latitude:	39° 41' 10"	Watershed:	Pennsville / Penns Grove tribs
Longitude:	75° 30' 20"	Subwatershed:	LDRV tribs (Lakeview Ave to Oldmans Ck)
County:	Salem	HUC 14 (c):	02040206020010
Municipality:	Pennsville	Water Quality Impairments (d):	Mercury in fish tissue, Dieldrin, DDT in fish tissue, Chlordane in fish tissue, Copper, DO, Temperature, Turbidity
Outfall Description			
Outfall Configuration:	Partially Submerged Pipe	Submerged Pipe Characteristics:	Shoreline

Footnotes:
(a) The designated uses for this waterbody classification can be found at N.J.A.C. 7:9B-1.13.
(b) WMA = Watershed Management Area
(c) HUC 14 = 14 digit Hydrologic Unit Code
(d) These parameters are listed on Sublist 5 as impaired for this waterbody as per New Jersey's 2014 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

The facility also contains the following internal monitoring points:

Internal Monitoring Point Designator: 662A	
General Information	
Receiving Water:	Delaware River
Via:	Outfall Pipe (DSN 002A)
Type of Wastewater:	Treated Effluent from Secure Environmental Treatment Plant
Location:	After tertiary clarifier but prior to mixing with "B" basin at DSN 322A at Tank T-3

Internal Monitoring Point Designator: 322A	
General Information	
Receiving Water:	Delaware River
Via:	Outfall Pipe (DSN 002A)
Type of Wastewater:	Discharge from "B" basin
Location:	After "B" basin but prior to mixing with DSN 662A at Tank T-3

The designated uses for the mainstem Delaware River and Delaware Bay are those contained in "Delaware River Basin Commission, Water Quality Regulations, Administrative Manual - Part III," Article 3, dated October 23, 1996, including all amendments and future supplements thereto and are described below:

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

The quality of waters in Zone 5 shall be maintained in a safe and satisfactory condition for the following uses:
1. industrial water supplies after reasonable treatment;
2. a. maintenance of resident fish and other aquatic life,
   b. propagation of resident fish from R.M. 70.0 to R.M. 48.2,
   c. passage of anadromous fish,
   d. wildlife;
3. recreation;
4. navigation.

As noted in Section 5 above, this segment of the Delaware River is impaired for Mercury, Dieldrin, and Chlordane, DDT in fish tissue, and Copper, DO, Temperature, Turbidity. This permit action requires the facility to monitor their discharge as part of the DMR or WCR requirement to determine if their effluent contains any of these parameters, with the exception of DO. Temperature is limited on the facility's main discharge.

6 Description of Discharges:

DSN 001A

Stormwater in excess of the capacity of the diffuser at outfall DSN 002A will be discharged through the discharge system for DSN 001A which consists of the existing head tank T-1 and 78-inch diameter wood stave outfall piping. Specifically, when overall flows through DSN 002A exceed 56 MGD during major storm events (expected about 109 hours per year), DSN 001A will be utilized for discharging B Basin water (internal monitoring point DSN 322). B-Basin water consists of non-contact cooling water, stormwater runoff, steam condensate, and river water. This outfall will also be used when B Basin pumps P-3 and P-4 are operated periodically to assure readiness on a once per week basis to wet the wooden outfall pipe structure to ensure structural stability.

DSN 002A

Chemours Chambers Works (formerly DuPont) discharges through a 48-inch diameter outfall pipe with a submerged multi-port diffuser at its end approximately 1,300 feet offshore in the Delaware River. This outfall is designated as DSN 002A and became operational on approximately September 12, 2011. The outfall pipe is located approximately

300 feet south of outfall DSN 001A at the shoreline crossing and improves dispersion of treated effluent into the river. The outfall pipe and diffuser have a hydraulic capacity of approximately 56 MGD.

The discharge at DSN 002A is composed of wastewater from the internal monitoring locations, DSN 662A and DSN 322. DSN 662A is an internal monitoring point located at the terminus of the wastewater treatment plant. Treated effluent from the wastewater treatment plant and B-Basin is channeled through a head tank incorporating backflow prevention and piping from the tank to the new diffuser. The system also handles stormwater runoff up to the system capacity.

DSN 322 is an internal point that is located at the terminus of the B-Basin. B-Basin is an unlined sedimentation basin that is regulated under NJPDES/Discharge to Groundwater permit NJ00105872. Stormwater (from non-process areas of the facility), groundwater (from natural percolation) and some non-contact cooling water discharges are diverted to B-Basin. There are no effluent limitations or monitoring requirements for DSN 322A at this time since effluent limits and monitoring requirements are imposed at DSN 002A.

DSN 013A

DSN 013A discharges a combination of non-contact cooling water from non-process areas of the facility and excess river water that is treated with sodium hypochlorite and solids dispersant. This outfall also receives untreated stormwater from the Power House's roof drains at an estimated flow of 983 gallons per minute based on a 2-year, 24-hour storm event. This outfall discharges directly to the Delaware River. Outfall 013 also receives steam condensate from the Power House operations.

DSN 662A

DSN 662A is the terminus of the on-site wastewater treatment plant as described in detail in the next section. The wastewater treatment plant currently receives wastewater generated from the following manufacturing operations: Aramids (tenant), Performance Chemicals, Fluorochemicals (Chemours and tenant), Polymers, and PRAXAIR industrial gas manufacturing (tenant). In addition, wastewater is generated from the following areas and activities: Carneys Point Generating Plant, water treatment plant, research and development laboratories, hazardous leachate, hazardous waste storage, and remediation activities.

After the last treatment step the effluent from DSN 662A is conveyed through a channel from which it is pumped to Tank T-3. At Tank T-3 effluent from DSN 662A mixes with water from B-Basin prior to being discharged at DSN 002A.

7 Description of Wastewater Treatment Plant:

The on-site wastewater treatment plant has a design flow of 47.8 MGD but is currently operating well below that capacity. The wastewater treatment plant consists of multiple conveyance, storage, pretreatment and treatment systems including, but not limited to:

- Sludge and solids dewatering tank
- Metals precipitation
- Primary clarification
- Secondary and tertiary biological PACT (powdered activated carbon) treatment in aeration tanks and clarification
- pH control at various points in the process (prior to primary clarification, prior to and/or within secondary and tertiary treatment, and at outfalls if necessary)

At the wastewater treatment plant, process wastewater, septic tank overflow, wastewater from outside sources and stormwater is treated through primary treatment. Primary effluent is given one or two stages of biological treatment. Virgin and/or regenerated powdered activated carbon were added in the past to remove color, refractory organic

compounds, and some metals, depending on loading and plant operating conditions. With the shutdown of the Nitrators area and the suspension of the outside waste business heavy metals treatment offering, activated carbon is not currently needed to meet permit limits. Powdered activated carbon addition may resume in the future if the need arises. Clarification follows each stage of biological treatment. Polymer is used to improve coagulation and settling of the mixed liquor suspended solids in the secondary and tertiary clarifiers. Treated wastewater from the final clarification step is pumped to Tank T-3 where it combines with non-contact cooling water, stormwater, groundwater (from natural percolation), steam condensate from B Basin before discharge to the Delaware River.

A portion of the mixed liquor suspended solids from the biological treatment process are removed from the system via a belt filter press. The resulting dewatered solids are disposed of in the on-site RCRA Part B-permitted hazardous waste landfill or can be sent for commercial off-site hazardous waste disposal.

The Chambers Cogeneration Power Facility and the Praxair Industrial Gas Manufacturing Facility are located on the permittee's property and discharge wastewater to the wastewater treatment plant via pipeline. Also, a small amount of sanitary wastewater is sent to the plant from the adjacent Calpine Deepwater Generating Station.

The current DRBC Docket (D-1988-085-03) as approved on May 11, 2011 prohibits the acceptance of water generated from fracking operations.

8 Description of Effluent Limitation Guidelines:

Effluent Limitation Guidelines (ELGs) for the Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) Manufacturers

Manufacturing under Chambers Works SIC codes 2865 and 2869 is addressed by the Effluent Limitation Guidelines (ELGs) for the Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) manufacturers (40 CFR Part 414), Subpart H. The OCPSF ELG requires the imposition of effluent limitations on the process wastewater component of the discharge for Specialty Organic Chemicals. The permittee is also subject to Subpart I-Direct discharge point sources that use end-of-pipe biological treatment for the toxics. Process wastewater is represented by the flow from the internal monitoring point, DSN 662A which eventually is routed to DSN 002A. A long-term average flow of 11.0 MGD was used to calculate OCPSF limitations for DSN 662A in the existing permit. A lower long-term average flow of 9.43 MGD has been used in this permit renewal at the request of the permittee in their February 26, 2016 renewal application, thereby resulting in lower effluent limits based on OCPSF.

ELGs for the Centralized Waste Treatment (CWT) Point Source Category

Chemours had previously treated approximately 230,000 gallons per day of commercial off-site wastes. The wastewater treatment plant is certified to treat organics, oily wastes and heavy metals. Chemours's wastewater treatment facility met EPA's definition of a "Centralized Waste Treatment (CWT) facility", which is any facility that treats any hazardous or non-hazardous wastes, hazardous or non-hazardous industrial wastewater, and/or used material from off-site. Chambers Works had received a wide variety of hazardous (RCRA) and non-hazardous wastes and wastewater from off-site generators including, but not limited to:

- Wastewater from any of the categorical industries listed in 40 CFR Subchapter N – Effluent Guidelines and Standards
- Hazardous wastes from the electroplating industry
- Wastewater generated from the mining industry, pharmaceutical companies, other treatment facilities, manufacturing plants, refineries, remediation activities, spill cleanups, other industrial facilities, government agencies, other non-industrial facilities
- Municipal Waste
- Landfill Leachate

However, Chambers Works suspended its CWT business as of **March 31, 2012**. It is possible that wastewater from other Chemours manufacturing or remediation sites may be treated on a one-time, short-term, or ongoing basis in the future; Chambers Works received two such Chemours non-hazardous wastewater campaigns during the summer of 2016 and the winter of 2017. In addition, Chambers Works is looking into the viability of resuming CWT and could approach 230,000 gallons per day (50 trucks per day) if treatment was to resume. Therefore, all permit conditions and effluent limitations based on 40 CFR Part 437, Subpart D are being carried forward in this renewal permit to allow the permittee the option to resume accepting waste covered under this subpart.

Based on the above, ELGs are applicable to this facility in accordance with 40 CFR Part 437, the Centralized Waste Treatment (CWT) Point Source Category. A CWT facility that accepts wastes in more than one CWT subcategory may be eligible for the application of a combined set of effluent limitation guidelines under the Mixed Waste Subcategory D. The multiple waste stream category is the combination of the treatment of metal-bearing, oil and organic waste, wastewater or used material. In order to be eligible under Subpart D, the CWT facility must demonstrate that it provides "equivalent treatment" to that established by EPA in its development of the limitations for the individual subcategories of waste that it accepts. "Equivalent treatment" is defined in the CWT regulation as "a wastewater treatment system that achieves comparable pollutant removals to the applicable treatment technology selected as the basis of the limits and standards." A CWT facility is required to provide an Initial Certification Statement in order to be eligible to comply under Subpart D. This Certification Statement must be updated on an annual basis and submitted to the Department.

The Department reviewed the Initial Certification Statement and supporting technical information provided by DuPont in a prior NJPDES renewal application (July 7, 2003) and determined that DuPont is eligible under Subpart D. Therefore, Subpart D CWT ELGs have been imposed at DSN 662A in this permit renewal as well as in the 2005 NJPDES permit renewal. In order to continue to be eligible under Subpart D, Chambers Works is required to submit a Certification Statement on an annual basis in accordance with 40 CFR Part 437.42(a)3. This requirement is included in Part IV.G.3.a.

9 Description of Stormwater:

The majority of the stormwater for the active but non-process portions of the site drains through "B" Basin and discharges through DSN 002A after commingling with the wastewater treatment plant effluent (DSN 662). Precipitation falling within active production areas is routed to the on-site wastewater treatment system.

There are two small areas in the active portion of the site that do not drain to "B" Basin, but instead drain via outfalls SW001, SW002 and SW003. SW001 is located at 39d 41' 9.73" and longitude 75d 30' 21.29" and drains to the Delaware River. The drainage area served by SW001 is 2.14 acres and consists primarily of a parking corral for office buildings. SW002 is located at latitude 39d 40' 59.3" and longitude 75d 29' 41.54" and SW003 is located at latitude 39d 41' 00.13" and longitude 75d 29' 40.78". SW002 and SW003 both discharge to the Salem Canal and drain 4.50 acres. SW002 and SW003 drain an area in which office buildings are located which does not include manufacturing activities.

Based on the uses of the areas that are in this vicinity, the Department has determined that that these areas must demonstrate that there is no exposure of source materials. Specifically, there shall be no exposure, during and after storm events, of industrial materials, including machinery, waste products, by-products, raw materials or other source materials located at the facility, to any stormwater that is discharged to surface or ground waters. As long as the facility maintains this condition, no other permit conditions for these outfalls are necessary.

Chemours has one drainage area not served by a stormwater outfall, which is identified as Carneys Point (DANS-1). The stormwater from this area drains into Henby Creek and out to the Delaware River through a tide gate. This area does not have active manufacturing operations except for the hazardous waste landfill. The stormwater that lands on the active portion of the landfill is collected and sent to the wastewater treatment facility for treatment.

The permittee has identified two stormwater outfalls that may be related to industrial activities at the site. SC 07 discharges stormwater to the Salem Canal where the stormwater is associated with a very small location adjacent to streets within the plant over which trucks carry chemicals. As noted in the existing permit, the Department determined that this outfall does not require effluent limitations and monitoring requirements at this time. This is due to the fact that this outfall encompasses a very small drainage area (limited to the parking lot and part of an adjacent road) and the business that transports the chemicals along the road closed in 2012.

HC 01 discharges stormwater to Henby Creek and drains a covered explosives testing area with some test equipment preparation activities that occur partially outdoors. As noted in the existing permit, there were no noted source materials which could be picked up from stormwater runoff. To ensure that this remains the case, the Department is incorporating a Best Management Practices (BMPs) requirement as specified in Part IV, Section G. This requirement states that:

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

10 Type and Quantity of the Wastes or Pollutants:

The Permit Summary Table near the end of this fact sheet contains a summary of the quantity and quality of pollutants treated and discharged from the facility and the proposed effluent limitations.

11 Summary of Permit Conditions:

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

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

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

1. NJPDES Regulations (N.J.A.C. 7:14A),
2. New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B),
3. New Jersey's 2014 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List),
4. Requirements of the Delaware River Basin Commission (N.J.A.C. 7:9B-1.5(b)1),
5. Existing permit limitations in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44 (antibacksliding requirements),
6. Permit limitations in accordance with N.J.A.C. 7:9B-1.5(d) (antidegradation requirements),
7. Statewide Water Quality Management Planning Rules (N.J.A.C. 7:15),
8. Sludge Quality Assurance Regulations (N.J.A.C. 7:14C),
9. Technology Based Treatment Requirements or Effluent Limitation Guidelines Requirements (N.J.A.C. 7:14A-13.2 to 13.4),

Technology based limitations are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2(a)1.ii., 13.3(b), and 13.4. In general, technology based effluent limitations are based on Effluent Limitation Guidelines (ELGs), developed by the United States Environmental Protection Agency (USEPA), or on case-by-case limitations developed through a Best Professional Judgment (BPJ) analysis in cases where ELGs are not available or appropriate. ELGs are minimum technology based requirements applicable on a nation-wide basis and are published in 40 CFR Subchapter N. ELGs consider the category of industry that produce common pollutants taking into account the specific factors unique to a particular type of industry (manufacturing process, type and quantity of pollutants generated, types of treatment facilities available

to treat the pollutants, etc.). In cases where ELGs are applicable for surface water dischargers, ELG loading limitations are calculated using the specified concentration value and the production information provided by the permittee. BPJ determinations are authorized by Section 402 (a)(1) of the Clean Water Act.

In accordance with N.J.A.C. 7:14A-13.5, Water Quality Based Effluent Limitations (WQBELs) are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey Surface Water Quality Standards (SWQS), N.J.A.C. 7:9B-1.1 et seq., and the Federal Water Quality Standards, 40 CFR Part 131. WQBELs are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3. The procedures used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA "Technical Support Document for Water Quality-based Toxics Control" (TSD) (EPA- 505/2-90-001) and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

Expression of all effluent limitations is in accordance with N.J.A.C. 7:14A-13.14 and 13.15.

Whole effluent toxicity is expressed as a minimum as percent effluent.

Loading limitations (kg/day or g/day) are calculated by multiplying a flow value by the conversion factor of 3.785 (L/gal) and the appropriate concentration limitation (mg/L or µg/L). The flow value utilized in the loading calculations is dependent on the technical source of the effluent limit, which is described in further detail later in the Fact Sheet.

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

All permit limitations and conditions in this permit action, are equal to or more stringent than those contained in the existing permit action. As a result, this permit action satisfies the federal and state anti-degradation regulations at 40 CFR 131.12 and N.J.A.C. 7:9B-1.5(d), and no further anti-degradation analysis is necessary.

Monitoring frequencies and sample types are in accordance with N.J.A.C. 7:14A-14, unless specified otherwise in the permit. In accordance with N.J.A.C. 7:14A-14.2, the permittee may submit a written request for a modification of the permit to decrease monitoring frequencies for non-limited parameters listed in Part III if site specific conditions indicate the applicability of such a modification.

DSN 001A (Intermittent B-Basin Overflow)

1. Flow:

   This permit renewal does not include a numerical limitation for effluent flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13. The permittee shall monitor and report for monthly average and daily maximum flow. Also, the permittee shall monitor and report for "Duration of Discharge".

   For effluent flow, the monitoring frequency shall be **continuous** when discharging with a **metered** sample type. For "Duration of Discharge" the monitoring frequency shall be **once per month** with a **calculated** sample type.

2. BOD_5:

   This permit renewal does not include a numerical limitation for BOD_5 in consideration of the wastewater components. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13. The permittee shall monitor and report for monthly average and daily maximum concentrations as well as monthly average and daily maximum loadings.

The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **composite** sample.

3. Total Organic Carbon (TOC):

   A daily maximum effluent limitation of 50 mg/L is being carried forward from the existing permit. The permittee shall also monitor and report for monthly average concentration and monthly average and daily maximum loading.

   The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **composite** sample.

4. Total Suspended Solids (TSS):

   A daily maximum effluent limitation of 50 mg/L is being carried forward from the existing permit. The permittee shall also monitor and report for monthly average concentration and monthly average and daily maximum loading.

   The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **composite** sample.

5. pH:

   A minimum of 6.0 s.u. and a maximum of 9.0 s.u. is being carried forward from the existing permit and is consistent with the Water Quality Regulations of the DRBC.

   The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **grab** sample.

6. Oil & Grease:

   Effluent limitations of 10 mg/L as a monthly average and 15 mg/L as a daily maximum are being carried forward from the existing permit and are based on N.J.A.C. 7:14A-12.8(c). The permittee shall also monitor and report as a monthly average and daily maximum loading.

   The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **grab** sample.

DSN 002A: (DSN 662A and B-Basin)

1. Flow:

   This permit renewal does not include a numerical limitation for effluent flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13.

   The monitoring frequency for effluent flow shall be **continuous** with a **metered** sample type.

   Monitoring for **intake flow** from the Delaware River is also required to allow for calculation of net limits. Monitoring for intake flow shall also be reported on monitoring report forms as both a monthly average and daily maximum.

   The existing monitoring frequency for intake flow of **twice per week** is being carried forward from the existing permit. The sample type shall be **calculated**.

2. 5-Day Biochemical Oxygen Demand (BOD_5):

The existing permit imposes BOD_5 limits of 4,260 kg/day as a monthly average and 7,710 kg/day as a daily maximum. These limits were originally premised on the WLA of 9,400 lbs/day (4,260 kg/day) issued by DRBC on March 28, 1973. The Department has retained these existing BOD_5 limits pursuant to N.J.A.C. 7:14A-13.19. Monitoring and reporting on a concentration basis for both monthly average and daily maximum has also been carried forward.

The monthly average loading limitation for BOD_5 is based on the DRBC 20-day carbonaceous biochemical (first stage) oxygen demand ($CBOD_{20}$) WLA of 6,364 kg/day BOD_{20} as a thirty (30) day average. This requirement is retained as a narrative condition as item E.2.b. to avoid redundancy.

The existing monitoring frequency of **twice per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample.

3. Total Suspended Solids (TSS):

The existing permit imposes net TSS limits of 4,496 kg/day as a monthly average and 6,744 kg/day as a weekly average. Net TSS shall be calculated on a mass loading basis using individual Delaware River intake data values to ensure that credit is only given for the amount of intake water that is discharged to the Delaware River. Pursuant to N.J.A.C. 7:14A-13.4(k)5, "Credit shall be granted only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made…". Because only a portion of the permittee's intake water is drawn from the Delaware River, which is where the discharge is made, only that portion is eligible for net limits.

Net calculations have been specified as item A.1.n. of Part IV. Intake and effluent data shall also be reported as both a monthly average and weekly average on both a mass and concentration basis. Intake water monitoring shall be conducted at Spot 101.

The existing monitoring frequency of **twice per week** is being carried forward from the existing permit. The sample types shall be a **24-hour composite** sample type for intake and effluent and **calculated** for Net TSS.

4. pH:

The pH effluent limitations of 6.0 S.U. as a daily minimum and 9.0 as a daily maximum are retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

As specified in the existing permit, 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. These conditions have been included as item G.1.a. of Part IV of this permit. The Department has determined that it is appropriate to continue this requirement since the permittee utilizes a continuous pH meter which is more frequent than the monitoring frequency found at N.J.A.C. 7:14A-14.2.

The existing monitoring frequency of **continuous** is being carried forward from the existing permit. The sample type shall be a **grab** sample.

5. Temperature:

The existing effluent limit of 38.7 degrees Celsius as a daily maximum has been carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19. This value is more stringent than the DRBC standard of 43.3 degrees Celsius. Monthly average monitoring and reporting has also been retained.

The existing monitoring frequency of **continuous** is being carried forward from the existing permit. The sample type shall be a **grab** sample.

6. Color:

The Color limits of 350 Platinum Cobalt Units (PtCoU) as a monthly average and 500 PtCoU as a daily maximum applied as an "Effluent Gross Value" are being carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.9.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **grab** sample.

7. Fecal Coliform:

The existing permit requires monitoring for fecal coliform as a monthly and weekly geometric average. The Department has determined for discharges to interstate waters like the mainstem Delaware River, it is appropriate to retain the fecal coliform limitations based on the Effluent Quality Requirements of DRBC's Administrative Manual –Part III Water Quality Regulations, Section 4.30.4. This practice ensures that all discharges to the Delaware River from facilities located in different states are regulated uniformly. Additionally, this facility is regulated through an individual docket issued by the DRBC. This DRBC issued docket also specifies monitoring for fecal coliform rather than any other bacterial indicator. Therefore, the Department is carrying forward the monitoring condition for fecal coliform at this outfall.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

8. Oil and Grease:

The existing permit specifies oil and grease limits of 1,500 kg/day as a daily maximum with monthly average mass reporting. In addition, the existing permit specifies a daily maximum limit of 10 mg/L with monthly average concentration reporting. These limits are more stringent than the oil and grease limitations specified at N.J.A.C. 7:14A-12.8 and have been retained in this renewal permit pursuant to N.J.A.C. 7:14A-13.19.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

9. Chlorine Produced Oxidants (CPO):

The existing limit of 0.2 mg/L as a daily maximum is carried forward pursuant to N.J.A.C. 7:14A-13.19 until such time that a determination is completed on whether a water quality based CPO limitation will be imposed for dischargers to the main stem of the Delaware or the permittee proposes an expansion beyond the current permitted flow. Monthly average monitoring and reporting is also required.

In September 2014, EPA codified the use of sufficiently sensitive test methods. Because of this rule update, the Department is removing the existing **Recommended** Quantitation Level in this permit as this level does not comply with these regulatory changes. Due to adoption of the sufficiently sensitive test methods rule, a new **Required** Quantitation Level for CPO has been developed. The Department has determined that inclusion of a Required Quantitation Level of 0.02 mg/L is appropriate as this value has been shown to be

easily attainable using an EPA approved standard method. As such a Required Quantitation Level of 0.02 mg/L is included in Part III of the draft permit with explanatory language in Part IV.A.1(c).

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

10. Ammonia (Total as N):

The existing permit specifies ammonia-nitrogen limits of 5,246 kg/day as a monthly average and 6,745 kg/day as a daily maximum. In addition, the existing permit specifies a monthly average limit of 35 mg/L and a daily maximum limit of 45 mg/L. The monthly average limit of 35 mg/L is consistent with the DRBC Water Quality Regulations. These existing limits have been retained in this permit pursuant to N.J.A.C. 7:14A-13.19.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

11. Total Organic Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, and Phosphorus:

The existing permit requires monitoring for total organic nitrogen, nitrate nitrogen, and nitrite nitrogen on a mass and concentration basis as a monthly average and daily maximum. Monitoring for all these parameters is continued in this renewal permit.

These parameters may be pollutants of concern for this watershed. Since the discharge is to interstate waters and the Department defers to the DRBC regulations for the implementation of these parameters in the mainstem Delaware River and tidal tributaries, no limitations are proposed as the DRBC Water Quality Regulations do not contain a water quality criteria or an effluent standard for these parameters at this time. However, the Department is carrying forward the monitoring requirements so that current data is available in the event that the DRBC develops criteria for these parameters in the future.

If these parameters are found to be a pollutant of concern in these interstate waters, the Department, in conjunction with the DRBC, may determine a total maximum daily load (TMDL) for them for the Delaware River and how that load should be divided amoits sources. If a TMDL is determined to be necessary, the appropriate limitations will be incorporated into the permit at the time the TMDL is completed.

The existing monitoring frequency of **monthly** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

12. Surfactants:

The existing permit requires monitoring for surfactants on a concentration and mass basis as a monthly average and daily maximum. This monitoring is continued in this renewal permit.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

13. Iron, Total Recoverable:

Total Recoverable Iron shall be monitored at the intake and effluent and reported as both a mass and concentration. This requirement is continued from the existing permit since iron is present in detectable quantities in the effluent. Intake water monitoring shall be conducted at Spot 101. Net Total Recoverable Iron shall then be calculated using these individual data values to ensure that credit is only given for the amount of intake water that is discharged to the Delaware River. Net calculations have been specified in Part IV as item A.1.n.

The existing monitoring frequency of **monthly** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type for intake and effluent and a **calculated** sample type for Net Total Recoverable Iron.

14. Fluoride:

The existing permit imposes Fluoride limits of 4,257 kg/day as a monthly average and 6,235 kg/day as a daily maximum. These limits have been retained pursuant to N.J.A.C. 7:14A-13.19 in this renewal permit since fluoride is detected in the effluent data. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum has also been required.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

15. Barium, Total Recoverable:

The existing permit imposes a Total Recoverable Barium limit of 300 kg/day as a daily maximum with monthly average monitoring. This limit has been retained pursuant to N.J.A.C. 7:14A-13.19 in this renewal permit since total recoverable barium is detected in available effluent data. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum has also been required.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

16. Chromium, Total Recoverable:

The existing permit imposes Total Recoverable Chromium limits of 44.2 kg/day as a monthly average and 65.9 kg/day as a daily maximum. These limits have been retained pursuant to N.J.A.C. 7:14A-13.19 in this renewal permit since total recoverable chromium is detected in the effluent data. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum has also been required.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

17. Antimony, Total Recoverable:

The existing permit imposes Total Recoverable Antimony limits of 37.0 kg/day as a monthly average and 77.9 kg/day as a daily maximum. These limits have been retained pursuant to N.J.A.C. 7:14A-13.19 in this renewal permit since total recoverable antimony is detected in available effluent data. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum has also been required.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

18. Phenols:

The existing permit imposes Phenols limits of 142 kg/day as a monthly average and 284 kg/day as a daily maximum. These limits have been retained pursuant to N.J.A.C. 7:14A-13.19 in this renewal permit since phenols are detected in available effluent data. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum has also been required.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

19. Selenium, Total Recoverable:

The existing permit imposes a daily maximum limit of 3.0 kg/day for Total Recoverable Selenium along with monthly average monitoring. While the majority of effluent data shows that this parameter is not detected, this effluent limit is continued in this renewal permit pursuant to N.J.A.C. 7:14A-13.19 due to some detectable quantities. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum is also retained from the existing permit. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

20. Hexavalent Chromium:

The existing permit imposes a daily maximum concentration limit of 100 ug/L as well as a monthly average limit of 2.6 kg/day and a daily maximum limit of 5.2 kg/day. While the majority of effluent data shows that this parameter is not detected, these effluent limits are continued in this renewal permit pursuant to N.J.A.C. 7:14A-13.19. In addition, monitoring and reporting on a concentration basis as a monthly average is also retained from the existing permit. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

21. Cadmium, Total Recoverable:

The existing permit imposes a daily maximum limit of 3.0 kg/day. While the majority of effluent data shows that this parameter is not detected, these effluent limits are continued in this renewal permit pursuant to N.J.A.C. 7:14A-13.19. In addition, monitoring and reporting on a concentration basis as a monthly average and daily maximum has also been required as well as monitoring and reporting on a mass basis as a monthly average. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

22. Methylene Chloride:

The existing permit requires monitoring for methylene chloride on a concentration and mass basis as a monthly average and daily maximum. This monitoring is continued in this renewal permit.

The existing monitoring frequency of **monthly** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

23. Copper, Total Recoverable:

In this renewal action, the Department has revised the cause analysis for this parameter based on the dilution factor of 18 as described in further detail below. The existing effluent limitation for copper is 30 kg/day as a daily maximum as a net value. This limit has been retained pursuant to N.J.A.C. 7:14A-13.19 since available copper data did not show cause to violate SWQS. The existing conditions of monitoring and reporting on a mass basis for a monthly average and daily maximum as well as for a monthly average concentration basis are carried forward from the existing permit. This monitoring is required at both the intake and effluent.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample types shall be a **24-hour composite** sample type for intake and effluent and a **calculated** sample type for Net Total Recoverable Copper.

24. Zinc, Total Recoverable:

In this renewal action the Department has revised the cause analysis for this parameter based on the dilution factor of 18 as described in further detail below. The current effluent limitation for zinc is 90 kg/day as a daily maximum as a net value. This limit has been retained pursuant to N.J.A.C. 7:14A-13.19 since available zinc data did not show cause to violate SWQS. The existing conditions of monitoring and reporting on a mass basis for a monthly average and daily maximum as well as for a monthly average concentration basis are carried forward from the existing permit. This monitoring is required at both the intake and effluent.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample types shall be a **24-hour composite** sample type for intake and effluent and a **calculated** sample type for Net Total Recoverable Zinc.

25. Cyanide, Total/Free:

The current effluent limitation for cyanide is 18.0 kg/day as a monthly average and 41.1 kg/day as a daily maximum. This limit has been retained pursuant to N.J.A.C. 7:14A-13.19. In addition, the existing conditions for monitoring and reporting on a concentration basis as a monthly average and daily maximum are being carried forward from the existing permit. Since there is no acute DRBC criteria for Total Cyanide, the Department is changing the parameter to Free Cyanide, which as a DRBC acute criteria.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample types shall be a **grab** sample type.

26. Arsenic, Total Recoverable:

The existing permit imposes a daily maximum limit of 15.0 kg/day and this effluent limit is continued in this renewal permit pursuant to N.J.A.C. 7:14A-13.19. In addition, the existing conditions of monitoring and reporting on a concentration basis as a monthly average and daily maximum and as a monthly average mass basis are carried forward from the existing permit. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

27. Nickel, Total Recoverable:

The existing permit imposes Total Recoverable Nickel limits of 25 kg/day as a monthly average and 45 kg/day as a daily maximum. These limits have been retained pursuant to N.J.A.C. 7:14A-13.19 in this renewal permit since total recoverable nickel is detected in available effluent data. In addition, the existing conditions for monitoring and reporting on a concentration basis as a monthly average and daily maximum are being carried forward from the existing permit. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

28. Lead, Total Recoverable:

The existing permit imposes a daily maximum limit of 15.0 kg/day and this effluent limit is continued in this renewal permit pursuant to N.J.A.C. 7:14A-13.19. In addition, the existing conditions of monitoring and reporting on a concentration basis as a monthly average and daily maximum and as a monthly average mass basis are carried forward from the existing permit. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

29. Mercury, Total Recoverable:

The existing permit requires a daily maximum limit of 10 ug/L and mass based limits of 0.45 kg/day as a monthly average and 0.91 kg/day as a daily maximum. While the majority of effluent data shows that this parameter is not detected, these effluent limits are continued in this renewal permit pursuant to N.J.A.C. 7:14A-13.19. In addition, the existing conditions for monitoring and reporting on a concentration basis as a monthly average and daily maximum are being carried forward from the existing permit. Available effluent data did not show cause to violate SWQS as described below.

The existing monitoring frequency of **once per week** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type.

30. Water Quality Based Effluent Limits Analysis:

In accordance with N.J.A.C. 7:14A-13.6(a), a WQBEL shall be imposed when the Department determines pursuant to N.J.A.C. 7:14A-13.5 that the discharge of a pollutant causes an excursion above a SWQS.

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all effluent data sets made available to the Department. Acceptable data sets generally consist of, at a minimum, 10 data values including the most recent 2½ years of data collection. A pollutant is considered discharged in "quantifiable amounts" when an exact amount of that pollutant is measured equal to or above the detection level reported by a laboratory analysis (refer to the "Monitoring Report Form (MRF) Reference Manual", which can be found at www.state.nj.us/dep/dwq/pdf/mrf-manual.pdf). The Department reviewed individual data points from September 2011 through April 2016. Based on the review of the data sets, the Department has concluded the following:

- **Fluoride, Iron, Barium, Total Chromium, Total Cyanide, Antimony, Manganese, Methylene Chloride, and Phenols** were found to be discharged in quantifiable amounts in the effluent. However, these parameters do not have acute surface water criteria at this time. Therefore, further analyses have not been conducted on these pollutants. However, existing limitations and/or monitoring conditions have been carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19

- **Copper, Zinc, Arsenic, Nickel, Lead, Selenium, Hexavalent Chromium, Cadmium, and Mercury** were found to be discharged in quantifiable amounts in the effluent. These parameters do have acute criteria. Therefore, further analyses have been conducted on these pollutants.

Quantified Pollutant Analysis Methodology:

For each pollutant discharged in quantifiable amounts in the effluent that has an acute SWQS, a cause analysis was conducted using the procedures specified in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.5. The cause analysis consists of a comparison between the pollutant's maximum effluent concentration value

(or average value of a long-term data set in the case of criteria with an averaging period longer than one year) and the pollutant's applicable site specific WLA.

Using the steady state mass balance equation, WLAs were developed utilizing the most current DRBC stream water quality objectives adopted per DRBC Resolution No. 2010-13, pollutant specific upstream concentrations (when available), and a dilution factor of 18 from the DRBC Docket No. D-1988-085-3.

For the applicable pollutants (Copper, Lead, Nickel, and Zinc), the applied criteria is based on a site specific hardness value of 91.5 mg/L of $CaCO_{3\ from}$ the DRBC Docket No. D-1988-085-3 and a water effect ratio (WER) of 1.0.

Quantified Pollutant Analysis Results:

Cause analyses were conducted on **Copper, Zinc, Arsenic, Nickel, Lead, Selenium, Hexavalent Chromium, Cadmium, and Mercury**. As a result of the cause analyses, none of the parameters were found to cause an excursion of the SWQS. The Department's conclusions and results are listed below. Refer to Table A at the back of the Fact Sheet for a summary of the effluent limitation analysis for these parameters.

Because these parameters do not show cause to violate DRBC stream water quality objectives, WQBELs are not proposed at this time. The current limitations and monitoring and reporting requirements for these parameters are being carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19 as noted previously.

In the existing permit, **Beta Endosulfan, Trivalent Chromium, Endosulfan, Gamma BHC, Heptachlor, Heptachlor Epoxide, Delta BHC, Isophorone** and **Manganese** were required to be monitored at DSN 002A to determine if WQBELs were warranted at DSN 002A since these parameters were shown to be detected at DSN 662A. The monitoring for **Heptachlor, Heptachlor Epoxide,** and **Isophorone** has been removed from the DMR since these parameters were not shown to be detected at DSN 662A. The monitoring requirements for **Beta Endosulfan, Trivalent Chromium, Endosulfan, Gamma BHC, Delta BHC,** and **Manganese** are set at **once per quarter.**

31. Whole Effluent Toxicity (WET):

Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the State's SWQS at N.J.A.C. 7:9B-1.5(a)4 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the Department determines using site-specific WET data that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the State's SWQS and the NJPDES Regulations, the need for a WQBEL for WET was evaluated for this discharge.

DSN 002A is just north of the Delaware Memorial Bridge. The DRBC has identified the Delaware River south of the Delaware Memorial Bridge to be salt water and north of the Delaware Memorial Bridge to be fresh water. The salinity of the river, based on measurements of conductivity at the DSN 002A outfall location, changes based on river flow conditions. Conductivity is a useful surrogate parameter for salinity. The location of the Chemours water intake is just south of the Delaware Memorial Bridge. Some of the specific conductivity in the Chemours outfalls 002A and 662A wastewater discharge can be attributed to the specific conductivity of intake water from the Delaware River because Chemours withdraws approximately 16 to 28 MGD from the Delaware Estuary.

In order to determine the need for a WET WQBEL, the Department has analyzed all available WET effluent data. In general, an acceptable data set consists of, at a minimum, 10 data values including the most recent 2½

years of data collection. Based on the review of the applicable data set, the Department has concluded the following:

- WET was found in quantifiable amounts in the effluent for the species *Ceriodaphnia dubia* in both the acute and chronic WET samples. The existing permit requires monitoring for acute WET and chronic WET on a quarterly basis. Therefore, further analyses have been conducted for WET.

Acute WET

Cause Analysis:

For WET, a cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the maximum effluent value (in toxic units) exceeds the applicable site specific WLA (in toxic units), the discharge is shown to cause an exceedance of the SWQS.

Using the steady state mass balance equation, an acute WLA of 5.4 TU_as was developed utilizing the narrative criteria for toxic substances (general) specified in the New Jersey SWQS at N.J.A.C. 7:9B, and an acute dilution factor of 18, from the DRBC Docket No. D-1988-085-3. Consistent with the recommendations of section 2.3.3 of the TSD, a value of 0.3 acute toxic unit (TU_a) was used to interpret the narrative water quality criteria for WET contained at N.J.A.C. 7:9B-1.14(c) (see Response to Comments 13-74 through 13-89, 29 NJR 1861, (May 5, 1997)).

Effluent data for the time period of September 2011 through April 2016 was utilized for this analysis.

Review of the acute WET data set indicates the maximum effluent data value to be 2.62 TU_as (i.e. an LC50 = 38.2%). Since the maximum reported effluent data value does not exceed the applicable site specific WLA of 5.4 TU_as, the discharge does not cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS.

Reasonable Potential to Cause:

For WET, a reasonable potential to cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the projected maximum effluent value (in toxic units) exceeds the applicable site specific WLA (in toxic units), the discharge is shown to have reasonable potential to cause or contribute to an exceedance of the SWQS.

The projected maximum effluent value was calculated utilizing the procedures specified in section 3.0 of the USEPA TSD.

For this analysis, the acute reasonable potential multiplying factor (R.P.M.F.) of 1.05 was based on the number of data values in the applicable database specified above (35 data values), a site-specific coefficient of variation (CV) of 0.21, a 95% confidence level and a 95% probability basis (refer to Table 3.1 of USEPA's TSD). Multiplying the R.P.M.F. with the maximum data value of 2.62 TU_as from the above cause analysis, results in a projected maximum data value of 2.76TU_as. Since the projected maximum data value does not exceed the applicable site specific WLA of 5.4 TU_as, the discharge does not show reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS. Since the discharge was not found to cause or have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS, no new WQBELs have been imposed in this permit action.

However, at the request of the DRBC and in accordance with the DRBC docket No. D-1988-085-3, the Department is imposing an effluent limitation of 19% (equal to 5.4 TUa) for Acute WET. The existing sampling frequency of **quarterly** is being carried forward from the existing permit. A **composite** sample type shall be used.

Test Species for Acute WET:

The test species method to be used for acute testing shall continue to be the Fathead minnow (*Pimephales promelas*) 96 hr definitive test. Such selection is based on the freshwater characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and N.J.A.C. 7:18, the Regulations Governing the Certification of Laboratories and Environmental Measurements (N.J.A.C. 7:18).

Conductivity Requirement for Acute WET:

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 Chemours's effluent exceeds 5.4 TUs 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.

Chronic WET

The DRBC is developing a WLA for chronic toxicity. A report entitled "Wasteload Allocations for Volatile Organics and Chronic Toxicity for Point Sources Discharging to the Delaware Estuary" has been issued by the DRBC, but until the DRBC formally issues WLAs for this parameter, the Department has determined that a "monitor only" requirement in this permit for chronic WET will be carried forward from the existing permit. This information is required to be submitted pursuant to N.J.A.C. 7:14A-13.5(1). Upon finalization of the above referenced DRBC report, the Department will determine whether a WQBEL for Chronic WET is necessary for the protection of water quality. If a WET limitation is deemed necessary, that limitation will be incorporated into the permit in accordance with public notice and comment procedures, pursuant to N.J.A.C. 7:14A-16.3 and 16.4(b)7.iii.

Test Species for Chronic WET:

The test species method to be used for chronic testing shall be the *Ceriodaphnia dubia*, Survival and Reproduction Test, 40 CFR 136.3, method 1002.0. Such selection is based on the freshwater characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program" document. This document is included as Appendix A of this permit, in accordance with N.J.A.C. 7:14A-6.5, 7:14A-11.2(a)2.iv. and 40 CFR Part 136. The NJPDES Biomonitoring Report Form-Chronic Toxicity Test submitted to the DRBC shall include the Chronic Toxicity test results expressed as IC25 and NOEC to satisfy the requirements of the DRBC.

The monitoring frequency for chronic WET shall be **quarterly**. The sample type shall be **composite**.

Sampling Location for Acute and Chronic WET

Effluent samples for conducting acute and chronic WET testing are to be collected after the last treatment step at DSN 002A, consistent with the collection location for all other parameters.

DSN 662A – Internal Monitoring Point (terminus of the wastewater treatment plant)

1. Flow:

Monitoring conditions are applied for **flow** pursuant to N.J.A.C. 7:14A-13.13.

The monitoring frequency shall be **continuous** with a **metered** sample type.

2. TSS and BOD_5:

Concentration Limits for TSS:

The total suspended solids limits in the existing 2011 permit were carried forward from the 2005 permit. The 2005 TSS limits were developed using the EPA building block approach (as articulated in Chapter 5 of the EPA Permit Writer's Manual. EPA 883-B-96-003). This approach incorporates the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) and Centralized Waste Treatment (CWT) categorical effluent guidelines and secondary wastewater treatment standards. The approach was documented in the 2005 Response to Comments and resulted in effluent concentration limitations of 53 mg/L as a monthly average and 165 mg/L as a daily maximum. The limitations were calculated as follows:

Total Effluent Loading Limit = [OCPSF Effluent Limit x OCPSF Flow x 3.785] + [CWT Effluent Limit x CWT Flow x 3.785] + [Secondary Standard x Secondary Flow x 3.785]

Total Concentration Limit = Total Effluent Loading Limit / Total Flow / 3.785

TSS – Monthly Average

OCPSF	OCPSF Flow	Conversion Factor	CWT	CWT Flow	Conversion Factor	Secondary	Secondary Flow	Conversion Factor	Total
57	16.78	3.785	30.6	0.22	3.785	30	2.75	3.785	
Total		3,620			25.45			312.3	3,960

Monthly Average = 3,960 kg/day / 19.75 MGD / 3.785 = 53 mg/L

TSS – Daily Maximum

OCPSF	OCPSF Flow	Conversion Factor	CWT	CWT Flow	Conversion Factor	Secondary	Secondary Flow	Conversion Factor	Total
183	16.78	3.785	74.1	0.22	3.785	60	2.75	3.785	
Total		11,622.75			61.70			624.5	12,300

Daily Maximum = 12,300 kg/day / 19.75 MGD / 3.785 = 165 mg/L

New Calculations Using Current Flows

The effluent flow values for each of the three categories has changed in since 2005 and are 9.43 MGD for OCPFS flows, 0.23 MGD for CWT flows, and 0.02 MGD for Secondary flows as discussed in Section 8 above. Therefore, the Department has recalculated the concentration limits as shown below:

Total Effluent Loading Limit = [OCPSF Effluent Limit x OCPSF Flow x 3.785] + [CWT Effluent Limit x CWT Flow x 3.785] + [Secondary Standard x Secondary Flow x 3.785]

Total Concentration Limit = Total Effluent Loading Limit / Total Flow / 3.785

TSS – Monthly Average

OCPSF	OCPSF Flow	Conversion Factor	CWT	CWT Flow	Conversion Factor	Secondary	Secondary Flow	Conversion Factor	Total
57	9.43	3.785	30.6	0.23	3.785	30	0.02	3.785	
Total		2034.5			26.6			2.3	**2,063.4**

Monthly Average Loading = **2,063 kg/day**
Monthly Average Concentration = 2,063 kg/day / 9.68 MGD / 3.785 = **56 mg/L**

TSS – Daily Maximum

OCPSF	OCPSF Flow	Conversion Factor	CWT	CWT Flow	Conversion Factor	Secondary	Secondary Flow	Conversion Factor	Total
183	9.43	3.785	74.1	0.23	3.785	60	0.02	3.785	
Total		6531.7			64.5			4.5	**6,600.7**

Daily Maximum Loading = **6,601 kg/day**
Daily Maximum Concentration = 6,601kg/day / 9.68 MGD / 3.785 = **180 mg/L**

Concentration Limits for BOD_5:

The existing permit contained monitoring for BOD_5 on a concentration basis where the results were reported as a monthly average and a daily maximum. In parallel to the discussion above, the 5-day biochemical oxygen demand concentration limits should also be developed using the building block approach incorporating OCPSF and CWT categorical effluent guidelines and secondary wastewater treatment standards. Therefore, this permit renewal is proposing the addition of these concentration limitations. The resulting combined concentration limits are calculated as:

Total Effluent Loading Limit = [OCPSF Effluent Limit x OCPSF Flow x 3.785] + [CWT Effluent Limit x CWT Flow x 3.785] + [Secondary Standard x Secondary Flow x 3.785]

Total Concentration Limit = Total Effluent Loading Limit / Total Flow / 3.785

BOD_5 – Monthly Average

OCPSF	OCPSF Flow	Conversion Factor	CWT	CWT Flow	Conversion Factor	Secondary	Secondary Flow	Conversion Factor	Total
45	9.43	3.785	53	0.23	3.785	30	0.02	3.785	
Total		1,606.2			46.1			2.3	1,654.6

Monthly Average Loading = **2,063** kg/day
Monthly Average Concentration = 1,655 kg/day / 9.68 MGD / 3.785 = **45 mg/L**

BOD_5 – Daily Maximum

OCPSF	OCPSF Flow	Conversion Factor	CWT	CWT Flow	Conversion Factor	Secondary	Secondary Flow	Conversion Factor	Total
120	9.43	3.785	163	0.23	3.785	45	0.02	3.785	
Total		4,283.1			141.9			3.4	4,428.4

Daily Maximum Loading = **4,428 kg/day**
Daily Maximum Concentration = 4,428 kg/day / 9.68 MGD / 3.785 = **121 mg/L**

The monitoring frequency for BOD_5 and TSS shall be **twice per week** with a **24-hour composite** sample type.
Mass Loadings based on OCPSF and CWT:

BOD_5 Percent Removal:

A BOD_5 percent removal limit of 87.5 % as a minimum monthly average has been retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19. This percent removal limitation is based on the zone percent reduction for Zone 5 of the Delaware River as per the DRBC's Water Quality Regulations, Section 4.30.7. The monthly average loading and percent removal limitations are summarized in DRBC's Status of $CBOD_{20}$ Wasteload Allocation Report dated July 1994.

In order to calculate compliance with this percent removal limit, monitoring for influent BOD_5 shall be conducted at the influent to the wastewater treatment plant (Spot 529). The monitoring frequency for influent BOD_5 shall be **twice per week** with a **24-hour composite** sample type. Minimum BOD_5 percent removal shall then be calculated **twice per week** with a **calculated** sample type.

3. pH:

The limitations of 6.0 S.U. as a daily minimum and 9.0 as a daily been retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19. These limitations are also consistent with the Water Quality Regulations of the DRBC, OCPSF ELGs as well as the CWT ELGs.

The monitoring frequency shall be **continuous** with a **grab** sample type.

Consistent with DSN 002A, 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. These conditions have been included in Part IV of this permit.

4. Oil and Grease:

Effluent limits for oil and grease have been imposed in this permit at DSN 662A. The Department has retained oil and grease limits as mass loadings consistent with the existing permit in accordance with N.J.A.C. 7:14A-13.19. In calculating loading limits, the portion of CWT flow has been considered with the effluent limitation allowable under Subpart D of the CWT ELG. This allocation has been added to an allocation considering the non-CWT flow, the effluent limitations at N.J.A.C. 7:14A-12.8 and a conversion factor as described above for BOD_5 and TSS. As a result, effluent limitations have been calculated as 775 kg/day as a monthly average and 1220 kg/day as a daily maximum.

Monitoring for oil and grease on a concentration basis was also required in the existing permit where the results shall be reported as a monthly average and a daily maximum. However, in accordance with the CWT ELG, the renewal permit is proposing the ELG concentration limitations of 38 mg/L as a monthly average and 127 mg/L as a daily maximum.

The monitoring frequency shall be **once per week** using a **grab** sample type.

5. Ammonia Nitrogen and Total Organic Nitrogen:

Monitoring and reporting for ammonia-nitrogen (concentration-based) and total organic nitrogen (mass-based) at DSN 662A has been retained in the renewal permit pursuant to N.J.A.C. 7:14A-13.19. Effluent limitations and/or monitoring conditions for these parameters have already been applied at DSN 002A, the outfall through which this effluent typically discharges to the Delaware River.

The monitoring frequency shall be performed **once per week** using a **24-hour composite** sample type.

6. Fecal Coliform:

In accordance with the Effluent Quality Requirements of DRBC's Administrative Manual –Part III Water Quality Regulations, Section 4.30.4, the Department has determined it appropriate to only impose the 200 monthly geometric average and 400 weekly geometric average fecal coliform standards on any discharger in the mainstem Delaware River (Zones 1-6) and tidal tributaries up to the head of tide.

The existing permit specifies a monthly average effluent limit of 200 colonies per 100 ml and a weekly average effluent limit of 400 colonies per 100 ml. Therefore, these effluent limits have been retained in accordance with N.J.A.C. 7:14A-13.19 and are consistent with N.J.A.C. 7:14A-12.5.

The monitoring frequency shall be performed **once per week** using a **grab** sample type.

7. Dissolved Organic Carbon and Sulfate:

Monitoring and reporting for dissolved organic carbon and sulfate (concentration-based) as a monthly average and daily maximum has been retained in the renewal permit pursuant to N.J.A.C. 7:14A-13.19.

The monitoring shall be retained at **once per week** for dissolved organic carbon and **once per month** for sulfate. Dissolved organic carbon shall be monitored using a **24-hour composite** sample type and sulfate shall be monitored with a **grab** sample type.

8. Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) Effluent Limitation Guideline:

The OCPSF ELG specifies effluent limits for the following toxic pollutants:

Acenaphthene	1,1 Dichloroethane	Methyl Chloride	Total Nickel
Acenapthylene	1,2 Dichloroethane	Methylene Chloride	Total Zinc
Acrylonitrile	1,1 Dichloroethylene	Naphthalene	Bis 2-Ethylhexyl Phthalate
Anthracene	1,2 trans Dichloroethylene	Nitrobenzene	Fluoranthene
Benzene	2,4 Dichlorophenol	2-Nitrophenol	Phenol
Benzo(a)anthracene	1,2 Dichloropropane	4-Nitrophenol	
3,4 Benzofluoranthene	1,3 Dichloropropylene	Phenanthrene	
Benzo(k)fluoranthene	Diethyl phthalate	Pyrene	
Benzo(a)pyrene	2,4 Dimethylphenol	Tetrachloroethylene	
Carbon Tetrachloride	Dimethyl phthalate	Toluene	
Chlorobenzene	4,6 Dinitro-o-cresol	1,2,4 Trichlorobenzene	
Chloroethane	2,4 Dinitrophenol	1,1,1 Trichloroethane	
Chloroform	2,4 Dinitrotoluene	1,1,2 Trichloroethane	
2-Chlorophenol	2,6 Dinitrotoluene	Trichloroethylene	
Chrysene	Ethylbenzene	Vinyl Chloride	
Di-n-butyl phthalate	Fluorene	Total Chromium	
1,2 Dichlorobenzene	Hexachlorobenzene	Total Copper	
1,3 Dichlorobenzene	Hexachlorobutadiene	Total Cyanide	
1,4 Dichlorobenzene	Hexachloroethane	Total Lead	

OCPSF effluent limits are applied on a mass basis for all of the above parameters. These mass limits are calculated by multiplying a process wastewater flow of 9.43 MGD by the concentrations specified in the table under Subpart I entitled "Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment" along with a conversion factor of 3.785. A sample calculation is as follows:

Effluent Limit = OCPSF Effluent Limit for Acenaphthene in mg/L x 9.43 MGD x 3.785
Daily Maximum = 59 ug/L x 9.43 MGD x 3.785 gal/day x 0.001 = 2.1 kg/day
Monthly Average = 22 ug/L x 9.43 MGD x 3.785 gal/day x 0.001 = 0.8 kg/day

The Department has applied the OCPSF effluent limits at DSN 662A, which is the terminus of the wastewater treatment plant. Therefore, the permittee has not received additional credit for the flow from "B" Basin which consists of non-contact cooling water. It is important to note that the effluent limits for all of the above parameters are more stringent than the limits applied in 2011 since the long-term average flow value has changed based on the renewal application.

The ELGs at 40 CFR 414.91, Subpart I allow for an OCPSF allocation for metals if the facility has metal bearing waste streams. However, since the permittee has informed the Department that Chemours does not have any metal bearing waste streams from OCPSF operations, mass limitations for total chromium, copper, lead, nickel, and zinc are only based on Centralized Waste Treatment ELGs at 40 CFR 437.42.

The calculated OCPSF effluent limits are indicated in the below table and in the Permit Summary Table for DSN 662A. The permit requires the permittee to monitor and report for monthly average and daily maximum concentrations.

Subpart I - Direct Discharge Point Sources That Do Use End-of-Pipe Biological Treatment

Parameter	ELG (ug/L)		Process Flow (MGD)	Calculated Limit (kg/day)	
	Daily Max	Monthly Avg.		Daily Max	Monthly Avg.
Acenaphthene	59	22	9.43	**2.1**	**0.8**
Acenaphthylene	59	22	9.43	**2.1**	**0.8**
Acrylonitrile	242	96	9.43	**8.6**	**3.4**
Anthracene	59	22	9.43	**2.1**	**0.8**
Benzene	136	37	9.43	**4.9**	**1.3**
Benzo(a)anthracene	59	22	9.43	**2.1**	**0.8**
3,4-Benzofluoranthene	61	23	9.43	**2.2**	**0.8**
Benzo(k)fluoranthene	59	22	9.43	**2.1**	**0.8**
Benzo(a)pyrene	61	23	9.43	**2.2**	**0.8**
Bis(2-ethylhexyl)phthalate	279	103	9.43	**10.0**	**3.7**
Carbon Tetrachloride	38	18	9.43	**1.4**	**0.6**
Chlorobenzene	28	15	9.43	**1.0**	**0.5**
Chloroethane	268	104	9.43	**9.6**	**3.7**
Chloroform	46	21	9.43	**1.6**	**0.7**
2-Chlorophenol	98	31	9.43	**3.5**	**1.1**
Chrysene	59	22	9.43	**2.1**	**0.8**
Di-n-butyl phthalate	57	27	9.43	**2.0**	**1.0**
1,2-Dichlorobenzene	163	77	9.43	**5.8**	**2.7**
1,3-Dichlorobenzene	44	31	9.43	**1.6**	**1.1**
1,4-Dichlorobenzene	28	15	9.43	**1.0**	**0.5**
1,1-Dichloroethane	59	22	9.43	**2.1**	**0.8**
1,2-Dichloroethane	211	68	9.43	**7.5**	**2.4**
1,1-Dichloroethylene	25	16	9.43	**0.9**	**0.6**
1,2-trans-Dichloroethylene	54	21	9.43	**1.9**	**0.7**
	Daily Max	Month Avg.		Daily Max	Month Avg.

Parameter	ELG (ug/L)		Process Flow (MGD)	Calculated Limit (kg/day)	
2,4-Dichlorophenol	112	39	9.43	**4.0**	**1.4**
1,2-Dichloropropane	230	153	9.43	**8.2**	**5.5**
1,3-Dichloropropylene	44	29	9.43	**1.6**	**1.0**
Diethyl phthalate	203	81	9.43	**7.2**	**2.9**
2,4-Dimethylphenol	36	18	9.43	**1.3**	**0.6**
Dimethyl phthalate	47	19	9.43	**1.7**	**0.7**
4,6-Dinitro-o-cresol	277	78	9.43	**9.9**	**2.8**
2,4-Dinitrophenol	123	71	9.43	**4.4**	**2.5**
2,4-Dinitrotoluene	285	113	9.43	**10.2**	**4.0**
2,6-Dinitrotoluene	641	255	9.43	**22.9**	**9.1**
Ethylbenzene	108	32	9.43	**3.9**	**1.1**
Fluoranthene	68	25	9.43	**2.4**	**0.9**
Fluorene	59	22	9.43	**2.1**	**0.8**
Hexachlorobenzene	28	15	9.43	**1.0**	**0.5**
Hexachlorobutadiene	49	20	9.43	**1.7**	**0.7**
Hexachloroethane	54	21	9.43	**1.9**	**0.7**
Methyl Chloride	190	86	9.43	**6.8**	**3.1**
Methylene Chloride	89	40	9.43	**3.2**	**1.4**
Naphthalene	59	22	9.43	**2.1**	**0.8**
Nitrobenzene	68	27	9.43	**2.4**	**1.0**
2-Nitrophenol	69	41	9.43	**2.5**	**1.5**
4-Nitrophenol	124	72	9.43	**4.4**	**2.6**
Phenanthrene	59	22	9.43	**2.1**	**0.8**
Phenol	26	15	9.43	**0.9**	**0.5**
Pyrene	67	25	9.43	**2.4**	**0.9**
Tetrachloroethylene	56	22	9.43	**2.0**	**0.8**
Toluene	80	26	9.43	**2.9**	**0.9**
Total Chromium	2,770	1,110	9.43	**98.9**	**39.6**
Total Copper	3,380	1,450	9.43	**120.6**	**51.8**
Total Cyanide	1,200	420	9.43	**42.8**	**15.0**
Total Lead	690	320	9.43	**24.6**	**11.4**
Total Nickel	3,980	1,690	9.43	**142.1**	**60.3**
Total Zinc	2,610	1,050	9.43	**93.2**	**37.5**
1,2,4-Trichlorobenzene	140	68	9.43	**5.0**	**2.4**
1,1,1-Trichloroethane	54	21	9.43	**1.9**	**0.7**
1,1,2-Trichloroethane	54	21	9.43	**1.9**	**0.7**
Trichloroethylene	54	21	9.43	**1.9**	**0.7**
Vinyl Chloride	268	104	9.43	**9.6**	**3.7**

All OCPSF parameters specified above shall be sampled **once per week** with a **grab** sample type for volatile organics and a **24-hour composite** sample type for all other OCPSF parameters.

9. Centralized Waste Treatment (CWT) Point Source Category:

The CWT ELG specifies effluent limits for the following toxic pollutants:

Antimony		
Arsenic	Tin	Carbazole
Cadmium	Titanium	o-Cresol
Chromium	Vanadium	p-Cresol
Cobalt	Zinc	n-Decane
Copper	Acetone	n-Octadecane
Lead	Acetophenone	Pyridine
Mercury	2-Butanone (Methyl ethyl ketone)	
Nickel	2,4,6 Trichlorophenol	
Silver	Butylbenzyl phthalate	

CWT effluent limits are applied on a concentration basis based on Subpart D entitled "Multiple Wastestreams" and are consistent with the existing permit. The Department has applied the CWT effluent limits at DSN 662A, which is the terminus of the wastewater treatment plant. Therefore, the permittee has not received additional credit for the flow from "B" Basin which consists of non-contact cooling water. Mass loading reporting requirements are specified for any limited CWT parameters for fee calculation purposes.

The CWT ELG also specifies an in-plant limitation for total cyanide. This limit has been applied as a narrative condition in Part IV.

CWT parameters specified above shall be sampled **twice per month** except for chromium, copper, lead, nickel, zinc, and antimony. Chromium, copper, lead, nickel, and zinc shall be sampled **once per week** whereas antimony shall be sampled **once per quarter**. A 24-hour composite sample type shall be used for all CWT parameters.

10. Toxic Pollutants based on both OCPSF and CWT Effluent Limitation Guideline:

Bis(2-ethylhexyl)Phthalate, Fluoranthene, Phenol

As stated previously, OCPSF mass loadings are calculated by multiplying a process wastewater flow (i.e. OCPSF flow) of 9.43 MGD by the OCPSF concentration and a conversion factor of 3.785. Similarly, CWT effluent limits are calculated by multiplying a process wastewater flow of 0.23 MGD by the CWT concentration and a conversion factor of 3.785. Regarding these three pollutants which are specified in both ELGs, the OCPSF loading and the CWT loading have been added together resulting in the effluent limitation indicated in the Permit Summary Table. Therefore, the calculation is as follows:

Effluent Limit in kg/day = [OCPSF Effluent Limit x 9.43 x 3.785]+[CWT Effluent Limit x 0.23 x 3.785]

Bis(2-ethylhexyl) Phthalate
= [103 x 9.43 x 3.785] + [1,010 x 0.23 x 3.785] = 3,676.3 + 879.3 = 4,555.6 x 0.001 = **4.6**
= [279 x 9.43 x 3.785] + [2,150 x 0.23 x 3.785] = 9,958.2 + 1,871.7 = 11,829.9 x 0.001 = **11.8**

Fluoranthene
= [25 x 9.43 x 3.785] + [26.8 x 0.23 x 3.785] = 892.3 + 23.3 = 915.6 x 0.001 = **0.9**
= [68 x 9.43 x 3.785] + [53.7 x 0.23 x 3.785] = 2,427.1 + 46.7 = 2,473.8 x 0.001 = **2.5**

Phenol
= [15 x 9.43 x 3.785] + [1080 x 0.23 x 3.785] = 535.4 + 940.2 = 1,475.6 x 0.001 = **1.5**
= [26 x 9.43 x 3.785] + [3700 x 0.23 x 3.785] = 928 + 3,221 = 4,149 x 0.001 = **4.1**

The above parameters shall be sampled **once per week** with a **24-hour composite** sample type.

11. Acrolein, Bromoform, Di-n-octyl Phthalate and N-nitrosodimethyl-amine:

The following table shows the sampling data from the time period of September 2011 to April 2016.

Parameter	Avg. kg/day	Max. kg/day	# Detect	# Non-Detect	Sample Type
Acrolein	<0.0-<1.0	<0.0-<1.0	0	56	Grab
Bromoform	0.016	0.07	3	53	24-hour Comp.
Di-n-octyl Phthalate	<0.0-<1.0	<0.0-<1.0	0	56	24-hour Comp.
N-nitrosodimethyl-amine	<0.0-<0.43	<0.0-<0.43	0	56	24-hour Comp.

Monitoring for acrolein, bromoform, di-n-octyl phthalate, and N-nitrosodimethyl amine on a mass basis has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

The monitoring frequency of **quarterly** is being carried forward from the existing permit. These four parameters are being moved from the DMR to the quarterly WCR based on consistent non-detectable values. The sample type shall be **grab** for acrolein and a **24-hour composite** for bromoform, di-n-octyl phthalate, N-nitrosodimethyl-amine.

12. Priority Pollutant Scan – WCR Requirement:

While the majority of the priority pollutants are regulated via effluent limitations as described above, the existing permit requires a quarterly priority pollutant scan. Based on the WCR data from the time period of September 2011 through February 2016, all the parameters were either non-detectable values or were detected at values below the acute SWQS.

In the existing permit, the monitoring frequency was increased from quarterly to monthly for those parameters that were detected and had either DRBC instream water quality objectives or SWQS. Those parameters were moved from the quarterly WCR to the monthly DMR. For those that did not have DRBC instream water quality objectives or SWQS, the monitoring frequency was left at **quarterly.** The below listed table shows those parameters and their detects verses non-detects for the most recent time period of September 2011 through April 2016.

Parameter		# Detected	# Non-Detects	Existing Monitoring Frequency Imposed (Form)	Proposed Monitoring Frequency Imposed (Form)
Beta Endosulfan		10	46	Monthly (DMR)	Monthly (DMR)
Trivalent Chromium		35	11	Monthly (DMR)	Monthly (DMR)
Endosulfans, Total		8	48	Monthly (DMR)	Monthly (DMR)
Gamma BHC		15	41	Monthly (DMR)	Monthly (DMR)
Heptachlor		0	56	Monthly (DMR)	Quarterly (WCR)
Heptachlor Epoxide		0	56	Monthly (DMR)	Quarterly (WCR)
Antimony		6	50	Quarterly (DMR)	Quarterly (DMR)
Barium		56	0	Quarterly (DMR)	Quarterly (DMR)
Delta BHC		8	48	Quarterly (DMR)	Quarterly (DMR)
Isophorone		1	55	Quarterly (DMR)	Quarterly (WCR)
Manganese		56	0	Quarterly (DMR)	Quarterly (DMR)
Total Recoverable Phenolics		4	12	Quarterly (DMR)	Quarterly (DMR)

In addition to monitoring these parameters at DSN 662A, the Department had imposed the same monitoring requirement at DSN 002A to collect data for these parameters to determine if WQBELs are warranted at DSN 002A. The parameters listed in the table above were added to the DMR for DSN 002A at the same frequencies listed above. Based on the most recent data, Beta Endosulfan, Endosulfans, Heptaclor, Heptachlor Epoxide, and Isophorone were not shown in detectable amounts at DSN 002A. Also, Heptaclor, Heptachlor Epoxide, and Isophorone were not shown in detectable amounts at DSN 662A. Therefore, these three parameters are being removed from the DMR for DSN 662A and are being placed back on the quarterly WCR.

As noted previously, the DMR already contains limitations for Total Recoverable Phenolics, which are being carried forward from the existing permit.

The remaining parameters that were not detected will remain on the quarterly WCR for DSN 662A, with the exception of Antimony. Antimony is being placed on the DMR since it is regulated by 40 CFR 434.42(b) and concentration limitations apply. Manganese and Barium are being placed on the DMR since there were consistent detectable quantities. The monitoring for those parameters shall be **monthly** with either a **grab** or **24 hour composite** sample type as appropriate and indicated on the WCR form.

13. Perfluorooctanoic Acid (PFOA):

The existing permit required weekly monitoring for PFOA. In the renewal application, the permittee identifies the compound PFOA as a compound that may be present at DSN 662A and DSN 002A. Currently, there is no DRBC criteria for PFOA . However, effluent monitoring for PFOA has been specified in this renewal permit as available data shows detected quantities as shown in the Permit Summary Table for DSN 662A. The monitoring for this parameter was required weekly as part of the monthly DMR in the existing permit. In this renewal, a Part IV condition continues **weekly** sampling for a select group of Perfluorinated Compounds (PFCs).

14. Perfluorononanoic acid (PFNA):

In accordance with a letter from the Department dated March 17, 2015, monitoring for PFCs including PFNA was required on a once per month basis for a period of one year along with the sampling for PFOA mentioned above. In a response letter dated May 5, 2015 from Dawn Hughes of Chemours, it was acknowledged that the permittee would be amenable to perform the sampling. The permittee has performed the sampling for these twelve months and has submitted the data to the Department. However, based on the facility's past and present operations in producing flourochemicals, the Department would like continued monitoring of this parameter. In this renewal, a Part IV condition will require **weekly** sampling for a select group of Perflourinated Compounds (PFCs).

15. Other Perfluorinated Compounds (PFCs):

As mentioned above, a letter from the Department dated March 17, 2015 required the facility to sample for PFCs at a sampling frequency of once per month for a period of 12 months. It was recommended that the facility use EPA Method 537 for this sampling. However, to date, the permittee has only performed sampling for PFNA in addition to the sampling for PFOA. In this renewal, the following list of PFCs will be required to be sampled **weekly** as a Part IV requirement.

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)

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 a non-potable water (NPW) matrix. 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.

The analytical results for all PFCs shall be reported on a once per month basis within twenty-five days after the month in which the analysis was conducted as described in Part IV.G.7.

Questions or comments regarding sampling and analytical methods or available laboratories should be directed to the Office of Quality Assurance at (609) 292-3950.

16. WET:

In order to determine the need for a WET WQBEL at DSN 662A, the Department has analyzed all available WET effluent data. In general, an acceptable data set consists of, at a minimum, 10 data values including the most recent 2½ years of data collection.

While DSN 002A is the final discharge point to the receiving waters, the Department has determined that retention of a WET action level at DSN 662A is appropriate. As a result, the Department has retained the existing acute action level of LC50≥ 50% at DSN 662A in accordance with N.J.A.C. 7:14A-13.19. This action level serves as a measure of WET at DSN 662A prior to combining with DSN 322A (B-Basin) then being discharged through DSN 002A. This limit serves a useful function given the wide variety of wastewater processed through the wastewater treatment plant.

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

The monitoring frequency for Acute WET at DSN 662A of monthly is being reduced to **quarterly** to be consistent with the monitoring frequency at DSN 002A. The sample type shall be a **composite** sample type.

The Department has reviewed the available data collected under the existing permit which required split sampling with two species and has determined that *Ceriodaphnia dubia* is the more sensitive species for Acute WET. Therefore, the Department is removing the requirement to sample using *Pimephales promelas*. The test species method to be used for acute testing shall be the *Ceriodaphnia dubia* 48 hr definitive test. Such selection is based on the freshwater characteristics of the receiving stream, and the existing permit, N.J.A.C. 7:9B-1.5.

The Toxicity Reduction Implementation Requirements (TRIR) are included in accordance with N.J.A.C. 7:14A-13.17(a), 7:14A-6.2(a)5 and recommendations in Section 5.8 of the TSD. The requirements are necessary to ensure compliance with the applicable WET toxicity action level and to expedite compliance with the WET

toxicity action level should exceedances of the WET action level occur. As included in section B.1 of the TRIR requirements, the initial step of the TRIR is to identify the variability of the effluent toxicity and to verify that a consistent toxicity problem does in fact exist.

Effluent samples for conducting WET testing are to be collected after the last treatment step, consistent with the collection location for all other parameters.

DSN 322A: B-Basin

The discharge at this location is comprised of non-contact cooling water and stormwater. Effluent limits and monitoring requirements have not been set forth in this renewal permit at DSN 322A as these discharges are not expected to contribute significant levels of pollutants. Instead, the discharge from DSN 322A is combined with DSN 662A and effluent limits and monitoring requirements have been set at DSN 002A. This monitoring configuration is consistent with the existing permit.

DSN 013A: Non-Contact Cooling Water

1. Flow:

This permit renewal does not include a numerical limitation for effluent flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13. The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be an **estimated** sample type.

Monitoring for intake flow from the Delaware River is also required to allow for calculation of net limits. Monitoring for intake flow shall also be reported on monitoring report forms as both a monthly average and daily maximum. The existing monitoring frequency for intake flow of **once per month** is being carried forward from the existing permit. The sample type shall be a **calculated** sample type.

2. pH:

The pH effluent limitations of 6.0 S.U. as a daily minimum and 9.0 as a daily maximum are retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

3. Total Suspended Solids (TSS):

The existing permit imposes a net TSS limit of 50 mg/L as a daily maximum. Pursuant to N.J.A.C. 7:14A-13.4(k)5, "Credit shall be granted only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made." The source of intake water for DSN 013A is the Delaware River which is where the discharge is made. Therefore, DSN 013A meets the criteria for net limits.

The permittee shall monitor for TSS for intake and effluent on a concentration basis as both a monthly average and daily maximum. Monitoring and reporting is also required as a mass loading for fee calculation purposes.

The existing monitoring frequency for intake and effluent TSS of **once per month** is being carried forward from the existing permit. The sample type shall be a **24-hour composite** sample type. The existing monitoring frequency for net TSS of **once per month** is being carried forward from the existing permit and shall be sampled with a **calculated** sample type.

4. Oil and Grease:

The monthly average and daily maximum effluent limits for oil and grease of 10 mg/L and 15 mg/L, respectively, have been retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

5. Temperature:

The daily maximum effluent limits for temperature of 42.8 degrees Celsius has been retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19. Monthly average monitoring and reporting is also retained from the existing permit.

The existing monitoring frequency of **once per day** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

6. Dissolved Organic Carbon (DOC):

The existing permit contains a net effluent limit for dissolved organic carbon of 20 mg/L as a daily maximum with monitoring and reporting for monthly average. This limit has been retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19. Monitoring and reporting is also required as a mass loading for fee calculation purposes.

DOC shall be monitored at the intake and effluent **once per month** with a **24-hour composite** sample type. Net calculations have been specified in Part IV. Net values shall be reported as both a monthly average and daily maximum. Intake and effluent data shall also be reported as both a monthly average and daily maximum.

7. Chlorine Produced Oxidants (CPO):

The daily maximum effluent limit for CPO of 0.2 mg/L has been retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19. Monthly average monitoring and reporting is also retained from the existing permit.

In September 2014, EPA codified the use of sufficiently sensitive test methods. Because of this rule update, the Department is removing the existing **Recommended** Quantitation Level in this permit as this level does not comply with these regulatory changes. Due to adoption of the sufficiently sensitive test methods rule, a new **Required** Quantitation Level for CPO has been developed. The Department has determined that inclusion of a Required Quantitation Level of 0.02 mg/L is appropriate as this value has been shown to be easily attainable using an EPA approved standard method. As such a Required Quantitation Level of 0.02 mg/L is included in Part III of the draft permit with explanatory language in Part IV.A.1.

The existing monitoring frequency of **once per month** is being carried forward from the existing permit. The sample type shall be a **grab** sample type.

D. Use of Sufficiently Sensitive Test Methods for Reporting:

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)(1)(iv).

An EPA-approved method is sufficiently sensitive where:

A. The method minimum level is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or

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

When there is no analytical method that has been approved at 40 CFR Part 136, required at 40 CFR Chapter I, Subchapter N or O, and is not otherwise required by the Department, the permitee may use any suitable method upon approval by the Department.

If there are any questions regarding sufficiently sensitive test methods, contact the Office of Quality Assurance at (609) 292-3950.

E. Reporting Requirements:

All data requested to be submitted by this permit shall be reported on the Discharge Monitoring Reports (DMRs), Waste Characterization Reports (WCR), and Residual Transfer Reports (RTR) as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

F. Electronic Reporting Requirements:

On October 22, 2015, the U.S. Environmental Protection Agency (EPA) promulgated the final National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule (see Federal Register 80:204 p. 64064). Among other obligations, this rule requires entities regulated under the Clean Water Act NPDES program to report certain information electronically instead of filing paper reports.

In accordance with this rule, all required monitoring results reported on Monitoring Report Forms (MRFs) are required to be electronically submitted to the Department via NJDEP's Electronic Monitoring Report Form (MRF) Submission Service.

Consistent with this rule, the existing reporting requirements contained in the existing permit at Part IV have been removed and are now contained at Part II of the permit. Please refer to Part II of this permit action for further details regarding the new reporting requirements as a result of the Electronic Reporting Rule. Note that submission of CWA 316(b) reports are required to be submitted electronically by December 21, 2020.

G. General conditions:

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

H. Operator Classification Number:

The operator classification requirement is no longer included in the permit. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Construction and Connection Permits at (609) 984-4429.

I. Flow Related Conditions:

This facility is located in the area covered by the Lower Delaware Water Quality Management Plan.

J. Residuals/Sludge Conditions:

All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residuals management.

Residuals conditions were removed from this permit. Residuals will be regulated under a separate new individual Notice of Authorization (NOA) to operate under NJPDES Master General Permit No. NJ0253553 to implement the provisions of the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C) for residual quality and quantity monitoring as well as other general conditions required by N.J.A.C. 7:14A-6. The issuance date of the NOA is expected to be on or before January 1, 2018. If there are any questions, please contact the Bureau of Pretreatment and Residuals at (609) 984-4428.

K. Biocides or Other Cooling Water Additives:

The Department has approved the permittee's request to use a number of corrosion inhibitors, biocides, and other cooling water additives in its non-contact cooling water. The approved additives with their corresponding dates when they were approved by the Department (if known) are included in Appendix B of the permit.

If the permittee decides to begin using any additional additives in the future, the permittee must notify the Bureau of Surface Water Permitting at least 180 days prior to use so that the permit may be reopened to incorporate any additional limitations deemed necessary.

L. Delaware River Basin PCB Pollutant Minimization Plan:

On December 15, 2003, the U.S. EPA Regions 2 and 3 adopted a Total Maximum Daily Load for Polychlorinated Biphenyls (PCBs) for Zones 2, 3, 4 and 5 of the tidal Delaware River. This TMDL requires that the facilities identified as discharging PCBs to the Delaware River prepare and implement PCB pollutant reduction plans (hereafter referred to as Pollutant Minimization Plans (PMPs)).

This permit renewal requires continued sampling of the 209 PCB congeners utilizing draft USEPA Method 1668A on an annual basis. Only dry weather sampling is required for this facility with a frequency of 2 samples per year for DSN 002A and 2 samples per year for DSN 662A.

This permit renewal also requires that the permittee continue to implement the approved PMP and submit a PMP annual report to the DRBC and the Department each subsequent year.

Refer to Part IV Section D of this permit for further details regarding the PMP plan requirements applicable to this facility.

9 Determinations under Sections 316(a) and 316(b) of the Clean Water Act (CWA)

A. Regulatory Overview

Section 316(b) "require[s] that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." The majority of environmental impacts associated with intake structures are caused by water withdrawals that ultimately result in aquatic organism losses. In that regard, cooling water intakes can have two types of effects, namely impingement and entrainment.

EPA released final regulations to establish requirements under Section 316(b) of the CWA for all existing power generating facilities and existing manufacturing and industrial facilities that have surface water intakes. The final regulations became effective October 14, 2014 (2014 Rule). See 79 Fed. Reg. 48300. Existing facilities that withdraw more than 2 MGD of water from waters of the United States and use at least 25 percent of that water exclusively for cooling purposes must comply with the new 316(b) regulations. The regulations establish national

performance standards that represent a baseline level of protection required of all affected facilities, and the regulations allow NPDES administrators to require additional safeguards for aquatic life based on site-specific considerations.

The final 2014 rule requires that existing facilities that withdraw at least 25 percent of their water from an adjacent waterbody exclusively for cooling purposes and have a design intake flow of greater than 2 MGD are required to reduce fish impingement. To ensure flexibility, the owner or operator of the facility will be able to choose one of seven options for meeting best technology available (BTA) requirements for reducing impingement. The Chambers Works facility is in this category, with a design intake flow of 34 MGD.

The CWA does not address endangered species, nor does this permit authorize take, as defined by the Endangered Species Act (ESA), 16 U.S.C. 1532(19). The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) (collectively the Services) have determined that any impingement (including entrapment) or entrainment of Federally-listed threatened or endangered species constitutes take. Such take may be authorized pursuant to the conditions of a permit issued under 16 U.S.C. 1539(a) or where consistent with an Incidental Take Statement contained in a Biological Opinion pursuant to 16 U.S.C. 1536(o). See 40 CFR 125.98(j).

EPA included a provision at 40 CFR 125.95(f) that requires a facility in its permit application to identify all Federally-listed threatened and endangered species and designated critical habitat that are or may be present in the action area. Further, the rule requires that the NPDES permitting authority transmit all permit applications to the Services to allow a 60 day review, which takes place prior to the public notice of the State's draft permit. The Services are expected to respond within 60 days and provide any corrections to the list of Federally-listed threatened and endangered species and critical habitat included in the permit application, and any measures that the Services recommend (including monitoring and reporting) for the protection of listed species. In addition, the State must copy the Services on the issuance of the draft permit, giving the Services an opportunity to review the draft permit and provide additional input or suggested control measures to address effects to listed species or critical habitat.

Among the recommendations that may be made by the Services to the facility and the Director (i.e., permitting authority) are measures to minimize incidental take. EPA expects that any measures the Services recommend to minimize incidental take will be consistent with ESA regulations and guidance, which state at 50 CFR 402.14(i)(2), "Reasonable and prudent measures, along with the terms and conditions that implement them, cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes."

As part of the issuance of this draft NJPDES permit, the Department is providing copies of this draft NJPDES permit to the USFWS as well as the NMFS in accordance with N.J.A.C. 7:14A-15.10(e)2.

B. <u>Historical Section 316(b) Information</u>

Chemours presented a study regarding entrainment and impingement (May 1987) and a follow up study entitled "Biological Evaluation of Chambers Works Water Intake Located at Atlantic Electric Company's Deepwater Generating Station", September 1989. These studies evaluated the impacts of the cooling water intake on biological organisms. A condition of the NJPDES/DSW permit effective September 1, 1987 required Chemours to modify their existing intake structures to include fish buckets and a fish return system to minimize the impingement and entrainment effects of the intake structures. As a result, modifications that were made to the vertical traveling screens in 1988 include:

- Incorporation of screen basket lip trays to minimize air exposure and re-impingement;
- Dual spray cleaning systems consisting of a low-pressure system to gently remove fish and a high- pressure system to remove debris;
- Dual sluices, one for fish and a second for debris to eliminate entanglement of fish with debris;

- Use of smooth mesh screening material (9.5 mm) to lower abrasions; and
- Increased speed of screen rotation and continuous screen operation to shorten the time of impingement.

C. NJPDES Submittal Requirements in Accordance with 40 CFR 122.21(r)(2) through (8)

The studies described above were submitted prior to the 2014 rule being issued. In order to comply with the Section 316(b) rule, the permittee submitted information on March 1, 2016 and July 27, 2017. The Department has reviewed these submissions and has found that the permittee has satisfied the requirements as applicable to this facility as excerpted below:

40 CFR 122.21(r)(2)

"**(2)** ***Source water physical data.*** These include:

(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;

(iii) Locational maps"

40 CFR 122.21(r)(3)

"**(3)** ***Cooling water intake structure data.*** These include:

(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."

40 CFR 122.21(r)(4)

"**(4)** ***Source water baseline biological characterization data.*** This information is required to characterize the biological community in the vicinity of the cooling water intake structure and to characterize the operation of the cooling water intake structures. The Director may also use this information in subsequent permit renewal proceedings to determine if your Design and Construction Technology Plan as required in § 125.86(b)(4) or § 125.136(b)(3) of this chapter should be revised…

(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".

40 CFR 122.21(r)(5)

"**(5)** ***Cooling Water System Data.*** The owner or operator of an existing facility must submit the following information for each cooling water intake structure used or intended to be used:

(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.

40 CFR 122.21(r)(6)

"(6) ***Chosen Method(s) of Compliance with Impingement Mortality Standard.*** 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...*"

40 CFR 122.21(r)(7)

"(7) ***Entrainment Performance Studies.*** 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)."

40 CFR 122.21(r)(8)

Sections of 40 CFR 122.21(r)(8) that are relevant to this facility are as follows:

"(8) ***Operational Status.*** The owner or operator of an existing facility must submit a description of the operational status of each generating, production, or process unit that uses cooling water, including but not limited to:

iii. 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;

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

***

(v) Descriptions of plans or schedules for any new units planned within the next 5 years."

D. Section 316(a)

DRBC is the regulatory agency with jurisdiction for thermal limits and mixing zones in the mainstem Delaware. The thermal water quality criteria for Zone 5 of the Delaware River requires the following:

> "the induced increase above ambient temperature shall not exceed 4 degrees Fahrenheit (2.2 degrees Celsius) from September to May and 1.5 degrees Fahrenheit (0.8 degrees Celsius) from June to August, or a maximum of 86 degrees Fahrenheit (30 degrees Celsius), whichever is less, which temperatures shall be measured outside of designated heat dissipation areas as described in 4.30.6.F."

Section 4.30.6.F describes the criteria for heat dissipation areas as follows:

> "**(Zone 5) Maximum Length:** As a guideline, heat dissipation areas shall not be longer than 3500 feet, measured from the point where the waste discharge enters the stream."

The permittee has received an approval from the DRBC which allows for specific temperature limits, in accordance with the DRBC's Water Quality Regulations – Interpretive Guideline No. 1(B)(1) a. The resulting thermal limitations from DRBC for the active outfalls are as follows:

Outfall	Temperature Limit
DSN 002A	38.7 degrees Celsius
DSN 013A	42.8 degrees Celsius

The above referenced approval from DRBC references other outfalls which are now inactive including former DSN 002 (40.6°C), DSN 003 (35.0°C), DSN 005 (43.3°C), DSN 007 (43.3 ° C), DSN 008 (43.3 ° C), and DSN 009 (43.3 ° C). Because these outfalls have been either closed or redirected, the overall thermal contribution from the facility has decreased. The DRBC completed a thermal mixing zone evaluation for DSN 002A and its diffuser and incorporated this information into Docket D-1988-085-03 approved on May 11, 2011.

The Department has retained the above referenced existing effluent limitations in this permit renewal.

7 Variances to Permit Conditions:

To date, the Department has not received a variance request from the permittee.

Procedures for modifying a water quality based effluent limitation are found in the New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.8 and 1.9. If a water quality based effluent limitation has been proposed in this permit action, the permittee may request a modification of that limitation in accordance with N.J.A.C. 7:14A-11.7(a). This request must be made prior to the close of the public comment period. The information that must be submitted to support the request may be obtained from the Bureau of Water Quality Standards and Assessment at (609) 777-1753.

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

Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in the *South Jersey Times* and in the DEP Bulletin.

9 Contact Information

If you have any questions regarding this permit action, please contact Robert Hall, Bureau of Surface Water Permitting at (609) 292-4860.

10 Calculation Equations:

A. Steady State Mass Balance Equation: $C_d = C_i = (Q_{up} \times C_{up} + Q_w \times WLA)/ (Q_{up} + Q_w)$

where,
- C_d = downstream concentration
- C_i = instream surface water criteria (from N.J.A.C. 7:9B)
- C_{up} = upstream concentration
- Q_{up} = upstream design low flow value, cfs
- Q_w = wastewater flow, cfs
- WLA = wasteload allocation

B. Wasteload Allocation: $WLA = C_i \times Df - C_{up}(Df - 1)$

where,
- WLA = wasteload allocation
- C_i = instream surface water criteria (from N.J.A.C. 7:9B)
- C_{up} = upstream concentration
- Df = dilution factor

C. Long Term Average: LTA = (WLA) × [WLA multiplier (LTA)]

where,
- LTA = long term average
- WLA = wasteload allocation
- WLA multiplier (LTA) = wasteload allocation multiplier for long term average, the 99th percentile multiplier, (see Table 5-1 in TSD, page 102)

D. Maximum Daily Limitation: MDL = (LTA) × [LTA multiplier (MDL)]

where,
- MDL = maximum daily limitation
- LTA = long term average
- LTA multiplier (MDL) = long term average multiplier for the maximum daily limitation , the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

E. Average Monthly Limitation: AML = (LTA) × [LTA multiplier (AML)]

where,
- AML = average monthly limitation
- LTA = long term average
- LTA multiplier (AML) = long term average multiplier for the average monthly limitation, the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

11 Permit Summary Table

Unless otherwise noted, all effluent limitations are expressed as maximums. Dashes (--) indicate there is no effluent data, no limitations, or no monitoring for this parameter depending on the column in which it appears.

DSN 001A – Wet Weather Overflow

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	FINAL LIMITS	MONITORING FREQUENCY
Flow – Effluent Gross Value	MGD	Monthly Avg. Daily Max.	2.4 20.9	MR MR	MR MR	Continuous
Flow – Duration	Hours/Month	Monthly Avg. Daily Max.	1.51 12.9	MR MR	MR MR	1/Month
BOD_5	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	365 365 1/28	MR MR	MR MR	1/Month
BOD_5	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	60 60 1/28	MR MR	MR MR	1/Month
Total Organic Carbon (TOC)	kg/day	Monthly Avg. Daily Max.	35.07 287	MR MR	MR MR	1/Month
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	3.75 8.0	MR 50	MR 50	1/Month
Total Suspended Solids	kg/day	Monthly Avg. Daily Max.	211.57 211.57	MR MR	MR MR	1/Month
Total Suspended Solids	mg/L	Monthly Avg. Daily Max.	20.41 20.41	MR 50	MR 50	1/Month
pH	S.U.	Minimum Maximum	6.7 7.9	6.0 9.0	6.0 9.0	1/Month
Oil and Grease	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	30.8 116 10/46	MR MR	MR MR	1/Month
Oil and Grease	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	2.9 8.0 10/46	10 15	10 15	1/Month

Footnotes and Abbreviations:
MR Monitor and report only

DSN 002A – Primary Diffuser Outfall (DSN 662A and B Basin)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	FINAL LIMITS	MONITORING FREQUENCY
Flow – Effluent	MGD	Monthly Avg. Daily Max.	19.73 37	MR MR	MR MR	Continuous
Flow – Intake	MGD	Monthly Avg. Daily Max.	13.64 31	MR MR	MR MR	Twice/Week
BOD_5	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	327.93 2432 30/26	4260 7710	4260 7710	Twice/Week
BOD_5	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	4.13 28 30/26	MR MR	MR MR	Twice/Week
Total Suspended Solids – **Intake**	kg/day	Monthly Avg. Weekly Avg.	2363 3315.1	MR MR	MR MR	Twice/Week
Total Suspended Solids – **Intake**	mg/L	Monthly Avg. Weekly Avg.	45.95 64.75	MR MR	MR MR	Twice/Week
Total Suspended Solids – **Effluent**	kg/day	Monthly Avg. Weekly Avg.	2493.6 3406.6	MR MR	MR MR	Twice/Week
Total Suspended Solids – **Effluent**	mg/L	Monthly Avg. Weekly Avg.	31.04 42.21	MR MR	MR MR	Twice/Week
Total Suspended Solids – **Net**	kg/day	Monthly Avg. Weekly Avg..	136.82 1027	4496 6744	4496 6744	Twice/Week
Total Suspended Solids – **Net**	mg/L	Monthly Avg. Weekly Avg.	-0.64 12.04	MR MR	MR MR	Twice/Week
pH	S.U.	Minimum Maximum	6.1 8.7	6.0 9.0	6.0 9.0	Continuous
Temperature	^{o}C	Monthly Avg. Daily Max.	19.27 32.9	MR 38.7	MR 38.7	Continuous
Color – **Effluent**	PtCo Units	Monthly Avg. Daily Max.	91.55 461	350 500	350 500	1/Week
Fecal Coliform	# / 100 Ml	Mthly Geo Avg Weekly Geo Avg.	69.58 670.8	MR MR	MR MR	1/Week
Oil and Grease	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	107.59 488 39/17	MR 1500	MR 1500	1/Week
Oil and Grease	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.40 6.0 39/17	MR 10	MR 10	1/Week
Chlorine Produced Oxidants	Mg/L	Monthly Avg. Daily Max.	0.06 0.2	MR 0.2	MR (1) 0.2 (1)	1/Week
Ammonia (as N)	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	36 549 47/9	5246 6745	5246 6745	1/Week
Ammonia (as N)	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.38 11 47/9	35 45	35 45	1/Week
Total Organic Nitrogen	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	245.46 2185 39/17	MR MR	MR MR	1/Month
Total Organic Nitrogen	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	2.90 21 39/17	MR MR	MR MR	1/Month
Nitrite Nitrogen	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	14.32 61 5/51	MR MR	MR MR	1/Month

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	FINAL LIMITS	MONITORING FREQUENCY
Nitrite Nitrogen	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.21 1.0 5/51	MR MR	MR MR	1/Month
Nitrate Nitrogen	kg/day	Monthly Avg. Daily Max.	618.57 3843	MR MR	MR MR	1/Month
Nitrate Nitrogen	mg/L	Monthly Avg. Daily Max.	7.79 47	MR MR	MR MR	1/Month
Phosphorus, Total	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	28.15 99 55/1	MR MR	MR MR	1/Month
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.26 1.0 55/1	MR MR	MR MR	1/Month
Surfactants (MBAS)	kg/day	Monthly Avg. Daily Max.	46.09 435	MR MR	MR MR	1/Week
Surfactants (MBAS)	mg/L	Monthly Avg. Daily Max.	0.55 5.0	MR MR	MR MR	1/Week
Iron, Total Recoverable – **Effluent**	kg/day	Monthly Avg. Daily Max.	101.71 310	MR MR	MR MR	1/Month
Iron, Total Recoverable – **Effluent**	mg/L	Monthly Avg. Daily Max.	1.36 3.0	MR MR	MR MR	1/Month
Iron, Total Recoverable – **Intake**	kg/day	Monthly Avg. Daily Max.	101.41 426	MR MR	MR MR	1/Month
Iron, Total Recoverable – **Intake**	mg/L	Monthly Avg. Daily Max.	2.02 8.0	MR MR	MR MR	1/Month
Iron, Total Recoverable – **Net**	kg/day	Monthly Avg. Daily Max.	0.40 190	MR MR	MR MR	1/Month
Iron, Total Recoverable – **Net**	mg/L	Monthly Avg. Daily Max.	-0.032 2.0	MR MR	MR MR	1/Month
Fluoride, Total	kg/day	Monthly Avg. Daily Max.	270.3 1598	4257 6235	4257 6235	1/Week
Fluoride, Total	mg/L	Monthly Avg. Daily Max.	3.5 18	MR MR	MR MR	1/Week
Barium, Total Recoverable	kg/day	Monthly Avg. Daily Max.	4.71 10	MR 300	MR 300	1/Week
Barium, Total Recoverable	mg/L	Monthly Avg. Daily Max.	65.66 194	MR MR	MR MR	1/Week
TOXIC POLLUTANTS						
Chromium, Total Recoverable	kg/day	Monthly Avg. Daily Max.	0.33 1.7	44.2 65.9	44.2 65.9	1/Week
Chromium, Total Recoverable	µg/L	Monthly Avg. Daily Max.	4.5 20	MR MR	MR MR	1/Week
Antimony, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.31 1.5 33/23	37.0 77.9	37.0 77.9	1/Week
Antimony, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	4.12 18 33/23	MR MR	MR MR	1/Week
Phenols	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	2.69 45 13/43	142 284	142 284	1/Week
Phenols	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	38.62 580 13/43	MR MR	MR MR	1/Week
Selenium, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.45 2.3 17/39	MR 3.0	MR 3.0	1/Week

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	FINAL LIMITS	MONITORING FREQUENCY
Selenium, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	5.53 29 17/39	MR MR	MR MR	1/Week
Chromium, Hexavalent	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.08 0.6 9/47	2.6 5.2	2.6 5.2	1/Week
Chromium, Hexavalent	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.22 7.0 9/47	MR 100	MR 100	1/Week
Cadmium, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.01 0.1 24/32	MR 3.0	MR 3.0	1/Week
Cadmium, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.14 1.0 24/32	MR MR	MR MR	1/Week
Methylene Chloride	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.28 0.8 14/42	MR MR	MR MR	1/Month
Methylene Chloride	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	4.79 12 14/42	MR MR	MR MR	1/Month
Copper, Total Recoverable – **Intake**	kg/day	Monthly Avg. Daily Max.	0.1 2.0	MR MR	MR MR	1/Week
Copper, Total Recoverable – **Intake**	µg/L	Monthly Avg. Daily Max.	3.62 40	MR MR	MR MR	1/Week
Copper, Total Recoverable – **Effluent**	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.21 4.0 52/4	MR MR	MR MR	1/Week
Copper, Total Recoverable – **Effluent**	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	4.94 32 52/4	MR MR	MR MR	1/Week
Copper, Total Recoverable – **Net**	kg/day	Monthly Avg. Daily Max.	0..21 4.0	MR 30	MR 30	1/Week
Copper, Total Recoverable – **Net**	µg/L	Monthly Avg. Daily Max.	2.5 27	MR MR	MR MR	1/Week
Zinc, Total Recoverable – **Intake**	kg/day	Monthly Avg. Daily Max.	0.83 6.0	MR MR	MR MR	1/Week
Zinc, Total Recoverable – **Intake**	µg/L	Monthly Avg. Daily Max.	15.88 91	MR MR	MR MR	1/Week
Zinc, Total Recoverable – **Effluent**	kg/day	Monthly Avg. Daily Max.	1.69 14	MR MR	MR MR	1/Week
Zinc, Total Recoverable – **Effluent**	µg/L	Monthly Avg. Daily Max.	21.79 202	MR MR	MR MR	1/Week
Zinc, Total Recoverable – **Net**	kg/day	Monthly Avg. Daily Max.	1.18 14	MR 90	MR 90	1/Week
Zinc, Total Recoverable – **Net**	µg/L	Monthly Avg. Daily Max.	10.70 193	MR MR	MR MR	1/Week
Cyanide, Free	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.55 7.7 34/22	18.0 41.1	18.0 41.1	1/Week
Cyanide, Free	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	7.32 110 34/22	MR MR	MR MR	1/Week
Arsenic, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.37 1.1 32/24	MR 15.0	MR 15.0	1/Week
Arsenic, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	4.88 15 32/24	MR MR	MR MR	1/Week

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	FINAL LIMITS	MONITORING FREQUENCY
Nickel, Total Recoverable	kg/day	Monthly Avg. Daily Max.	1.20 4.0	25 45	25 45	1/Week
Nickel, Total Recoverable	µg/L	Monthly Avg. Daily Max.	17.46 79	MR MR	MR MR	1/Week
Lead, Total Recoverable	kg/day	Monthly Avg. Daily Max.	0.24 8.0	MR 15	MR 15	1/Week
Lead, Total Recoverable	µg/L	Monthly Avg. Daily Max.	5.23 78	MR MR	MR MR	1/Week
Mercury, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.003 0.015 22/34	0.45 0.91	0.45 0.91	1/Week
Mercury, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.02 0.17 22/34	MR 10	MR 10	1/Week
Beta Endosulfan	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.01 <0.01 0/8	MR MR	MR MR	1/Quarter
Trivalent Chromium	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	3.56 9.0 16/3	MR MR	MR MR	1/Quarter
Endosulfans	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.024 0.024 1/7	MR MR	MR MR	1/Quarter
Gamma BHC	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.005 0.02 2/6	MR MR	MR MR	1/Quarter
Heptachlor	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0 - <0.005 <0 - <0.005 0/21	MR MR	-- --	--
Heptachlor Epoxide	µg/L	Monthly Avg. Daily Max. # Det. # Det. /# N.D.	0.1 0.1 1/52	MR MR	-- --	--
Delta BHC	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.01 0.01 1/7	MR MR	MR MR	1/Quarter
Isophorone	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0 - <0.3 <0 - <0.3 0/9	MR MR	-- --	--
Manganese	µg/L	Monthly Avg. Daily Max.	87.01 442	MR MR	MR MR	1/Quarter
WHOLE EFFLUENT TOXICITY						
Acute WET *Pimephales promelas*	%	Minimum	38.2 (average = 64.37 >100 (28 samples)	MR	19	1/Quarter
Chronic WET *Ceriodaphnia dubia*	%	Minimum	8.5 (average = 30.64) >100% (4 samples)	MR	MR	1/Quarter

Footnotes and Abbreviations:

MR Monitor and report only

(1) 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.

DSN 662A - Secure Environmental Treatment Plant

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	OCPSF LIMITS	CWT LIMITS	FINAL LIMITS (OCPSF + CWT)	MONITORING FREQUENCY
CONVENTIONALS AND NON-CONVENTIONALS								
Flow	MGD	Monthly Avg. Daily Max.	7.71 14	MR MR	-- --	-- --	MR MR	Continuous
BOD_5 – Influent total	mg/L	Monthly Avg. Daily Max.	135.63 1594	MR MR	-- --	-- --	MR MR	Twice/Week
BOD_5 – Effluent	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	99.74 2307 42/14	1918 5132	1606.2 4283.1	46.1 141.9	2,063 (4) 4,428 (4)	Twice/Week
BOD_5 – Effluent	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	3.42 84.4 42/14	MR MR	45 121	53 163	45 (4) 121 (4)	Twice/Week
BOD_5 – Percent Removal	%	Minimum Mthly Avg. Minimum	90.7 96.13	87.5	--	--	87.5	Twice/Week
Total Suspended Solids	kg/day	Monthly Avg. Daily Max.	721.93 2565	2,399 7,681	2,034.5 6,531.7	26.6 64.5	2,063 (4) 6,601(4)	Twice/Week
Total Suspended Solids	mg/L	Monthly Avg. Daily Max.	23.71 88	53 165	57 183	30.6 74.1	56 (4) 180 (4)	Twice/Week
pH	S.U.	Minimum Maximum	5.7 10.3	6.0 9.0	6.0 9.0	6.0 9.0	6.0 9.0	Continuous
Oil and Grease	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	51.39 1037 41/15	775 1220	-- --	30.5 110.6	775 1220	1/Week
Oil and Grease	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.68 34 41/15	MR MR	-- --	38 127	38 127	1/Week
Ammonia (as N)	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.52 11 50/6	MR MR	-- --	-- --	MR MR	1/Week
Total Organic Nitrogen	kg/day	Monthly Avg. Daily Max.	56.23 774	MR MR	-- --	-- --	MR MR	1/Week
Fecal Coliform	# / 100 Ml	Mthly Geo Avg Weekly Geo. Avg. # Det. /# N.D.	7.94 5700 47/9	200 400	-- --	-- --	200 400	1/Week
Dissolved Organic Carbon	mg/L	Monthly Avg. Daily Max.	7.48 48	MR MR	-- --	-- --	MR MR	1/Week
Sulfate	mg/L	Monthly Avg. Daily Max.	449.54 2260	MR MR	-- --	-- --	MR MR	1/Month
OCPSF EFFLUENT LIMITATION GUIDELINES								
Acenaphthene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Acenaphthylene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Acrylonitrile	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <1.4 <0.0 - <1.4 0/56	4.0 10.1	3.4 8.6	-- --	3.4 8.6	1/Week*
Anthracene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.03 <0.0 - <0.03 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Benzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.5 5.7	1.3 4.9	-- --	1.3 4.9	1/Week*
Benzo(a)anthracene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.005 0.03 6/30	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
3,4 Benzo-fluoranthene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.0 2.5	0.8 2.2	-- --	0.8 2.2	1/Week*

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	OCPSF LIMITS	CWT LIMITS	FINAL LIMITS (OCPSF + CWT)	MONITORING FREQUENCY
Benzo(k)fluoranthene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Benzo(a)pyrene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.0 2.5	0.8 2.2	-- --	0.8 2.2	1/Week*
Carbon Tetrachloride	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.7 1.6	0.6 1.4	-- --	0.6 1.4	1/Week*
Chlorobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.1 0.4 1/56	0.6 1.2	0.5 1.0	-- --	0.5 1.0	1/Week*
Chloroethane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.3 <0.0 - <0.3 0/56	4.3 11.2	3.7 9.6	-- --	3.7 9.6	1/Week*
Chloroform	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.03 0.2 46/10	0.9 1.9	0.7 1.6	-- --	0.7 1.6	1/Week*
2-Chlorophenol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.001 0.01 8/48	1.3 4.1	1.1 3.5	-- --	1.1 3.5	1/Week*
Chrysene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.04 <0.0 - <0.04 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Di-n-butyl phthalate	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.1 2.4	1.0 2.0	-- --	1.0 2.0	1/Week*
1,2 Dichlorobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.02 0.7 44/12	3.2 6.8	2.7 5.8	-- --	2.7 5.8	1/Week*
1,3 Dichlorobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.006 0.087 18/38	1.3 1.8	1.1 1.6	-- --	1.1 1.6	1/Week*
1,4 Dichlorobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.003 0.02 24/32	0.6 1.2	0.5 1.0	-- --	0.5 1.0	1/Week*
1,1 Dichloroethane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
1,2 Dichloroethane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.003 0.1 11/45	2.8 8.8	2.4 7.5	-- --	2.4 7.5	1/Week*
1,1 Dichloroethylene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.7 1.0	0.6 0.9	-- --	0.6 0.9	1/Week*
1,2 trans Dichloroethylene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.2	0.7 1.9	-- --	0.7 1.9	1/Week*
2,4 Dichlorophenol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.0 - <0.1 <0.0 - <0.1 0/56	1.6 4.7	1.4 4.0	-- --	1.4 4.0	1/Week*
1,2 Dichloropropane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	6.4 9.6	5.5 8.2	-- --	5.5 8.2	1/Week*
1,3 Dichloropropene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.2 1.8	1.0 1.6	-- --	1.0 1.6	1/Week*
Diethyl Phthalate	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.008 0.07 26/30	3.4 8.5	2. 7.2	-- --	2.0 7.2	1/Week*
2,4 Dimethylphenol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.0 - <0.1 <0.0 - <0.1 0/56	0.7 1.5	0.6 1.3	-- --	0.6 1.3	1/Week*

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	OCPSF LIMITS	CWT LIMITS	FINAL LIMITS (OCPSF + CWT)	MONITORING FREQUENCY
Dimethyl Phthalate	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.2 <0.0 - <0.2 0/56	0.8 2.0	0.7 1.7	-- --	0.7 1.7	1/Week*
4,6 Dinitro-o-cresol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	3.2 11.5	2.8 9.9	-- --	2.8 9.9	1/Week*
2,4 Dinitrophenol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.3 0.8 1/55	3.0 5.0	2.5 4.4	-- --	2.5 4.4	1/Week*
2,4 Dinitrotoluene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.0 - <0.1 <0.0 - <0.1 0/56	4.7 11.9	4.0 10	-- --	4.0 10	1/Week*
2,6 Dinitrotoluene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.0 - <0.1 <0.0 - <0.1 0/56	10.6 26.7	9.1 22.9	-- --	9.1 22.9	1/Week*
Ethylbenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.3 4.5	1.1 3.9	-- --	1.1 3.9	1/Week*
Fluorene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.5	0.8 2.4	-- --	0.8 2.4	1/Week*
Hexachlorobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.2 <0.0 - <0.2 0/56	0.6 1.2	0.5 1.0	-- --	0.5 1.0	1/Week*
Hexachlorobutadiene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.04 <0.0 - <0.04 0/56	0.8 2.0	0.7 1.7	-- --	0.7 1.7	1/Week*
Hexachloroethane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.2	0.7 1.9	-- --	0.7 1.9	1/Week*
Methyl Chloride	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	3.6 7.9	3.1 6.8	-- --	3.1 6.8	1/Week*
Methylene Chloride	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.094 0.6 42/14	1.7 3.7	1.4 3.2	-- --	1.4 3.2	1/Week*
Naphthalene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.094 0.6 7/49	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Nitrobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.06 0.7 38/18	1.1 2.8	1.0 2.4	-- --	1.0 2.4	1/Week*
2-Nitrophenol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.03 0.2 35/21	1.7 2.9	1.5 2.5	-- --	1.5 2.5	1/Week*
4-Nitrophenol	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.1 - <1.3 <0.1 - <1.3 0/56	3.0 5.2	2.6 4.4	-- --	2.6 4.4	1/Week*
Phenanthrene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.03 <0.0 - <0.03 0/56	0.9 2.5	0.8 2.1	-- --	0.8 2.1	1/Week*
Pyrene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.04 <0.0 - <0.04 0/56	1.0 2.8	0.9 2.4	-- --	0.9 2.4	1/Week*
Tetrachloroethylene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.3	0.8 2.0	-- --	0.8 2.0	1/Week*
Toluene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.1 3.3	0.9 2.9	-- --	0.9 2.9	1/Week*
1,2,4 Trichlorobenzene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.004 0.04 30/26	2.8 5.8	2.4 5.0	-- --	2.4 5.0	1/Week*
1,1,1 Trichloroethane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.2	0.7 1.9	-- --	0.7 1.9	1/Week*

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	OCPSF LIMITS	CWT LIMITS	FINAL LIMITS (OCPSF + CWT)	MONITORING FREQUENCY
1,1,2 Trichloroethane	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	0.9 2.2	0.7 1.9	-- --	0.7 1.9	1/Week*
Trichloroethylene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.03 0.08 2/54	0.9 2.2	0.7 1.9	-- --	0.7 1.9	1/Week*
Vinyl Chloride	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0 0.2 1/55	4.3 11.2	3.7 9.6	-- --	3.7 9.6	1/Week*
CENTRALIZED WASTEWATER TREATMENT ELGs								
Antimony	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	21.5 69 6/50	MR MR	-- --	206 249	206 249	1/Quarter**
Arsenic, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	7.70 15 23/33	104 162	-- --	104 162	104 162	2/Month**
Cadmium, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.48 2.0 18/38	10.2 17.2	-- --	10.2 17.2	10.2 17.2	2/Month**
Cobalt	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	2.3 12 50/6	124 192	-- --	124 192	124 192	2/Month**
Mercury, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.089 0.15 13/43	0.739 2.34	-- --	0.739 2.34	0.739 2.34	2/Month**
Silver, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.46 3.0 8/48	35.1 120	-- --	35.1 120	35.1 120	2/Month**
Tin	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	5.86 30 22/34	120 409	-- --	120 409	120 409	2/Month**
Titanium	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	7.0 26 51/5	-- --	-- --	61.8 94.7	61.8 94.7	2/Month**
Vanadium	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.98 5.5 33/22	66.2 218	-- --	66.2 218	66.2 218	2/Month**
Acetone	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	139.85 3600 13/43	7970 30,200	-- --	7970 30,200	7970 30,200	2/Month**
Acetophenone	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.6 9.0 2/54	56.2 114	-- --	56.2 114	56.2 114	2/Month**
2-Butanone (Methyl ethyl ketone (MEK)	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	23 170 2/54	1850 4810	-- --	1850 4810	1850 4810	2/Month**
2,4,6 Trichlorophenol	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.43 15 7/49	106 155	-- --	106 155	106 155	2/Month**
Butylbenzyl phthalate	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.8 - <4.0 <0.8 - <4.0 0/56	88.7 188	-- --	88.7 188	88.7 188	2/Month**
Carbazole	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <2.0 <0.0 - <2.0 0/56	276 598	-- --	276 598	276 598	2/Month**
o-Cresol	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.77 15 5/51	561 1920	-- --	561 1920	561 1920	2/Month**
p-Cresol	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <3.0 <0.0 - <3.0 0/56	205 698	-- --	205 698	205 698	2/Month**
n-Decane	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<1.0 - <11 <1.0 - <11 0/56	437 948	-- --	437 948	437 948	2/Month**

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	EXISTING LIMITS	OCPSF LIMITS	CWT LIMITS	FINAL LIMITS (OCPSF + CWT)	MONITORING FREQUENCY
n-Octadecane	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<1.0 - <11 <1.0 - <11 0/56	302 589	-- --	302 589	302 589	2/Month**
Pyridine	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<2.0 - <10 <2.0 - <10 0/56	182 370	-- --	182 370	182 370	2/Month**
Chromium, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	3.09 16	323 746	-- --	323 746	323 746	1/Week**
Copper, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	6.79 79 43/13	242 500	-- --	242 500	242 500	1/Week**
Lead, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	4.51 225	160 350	-- --	160 350	160 350	1/Week**
Nickel, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	27.73 152	1450 3950	-- --	1450 3950	1450 3950	1/Week**
Zinc, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	24.77 478	420 497	-- --	420 497	420 497	1/Week**
POLLUTANTS REGULATED BY OCPSF AND CWT ELGs								
Bis(2-ethylhexyl) phthalate	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.04 0.5 4/52	6.5 17.7	3.7 9.9	0.9 1.9	4.6 11.8	1/Week
Bis(2-ethylhexyl) phthalate	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	2.0 18 4/52	MR MR	-- --	101 215	101 215	1/Week
Fluoranthene	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	1.6 4.4	0.9 2.4	0.02 0.04	0.9 2.5	1/Week
Fluoranthene	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.3 - <2.0 <0.4 - <2.0 0/56	MR MR	-- --	26.8 53.7	26.8 53.7	1/Week
Phenol, Single Compound	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.0033 0.1 3/53	1.9 4.7	0.5 0.9	0.9 3.2	1.5 4.1	1/Week
Phenol, Single Compound	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.4 6.0 3/53	MR MR	-- --	1080 3650	1080 3650	1/Week
Cyanide	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.39 2.0 37/19	-- --	-- --	-- --	MR MR	2/Month
Cyanide	mg/L	Monthly Avg. Daily Max.	13.08 62 37/19	MR MR	-- --	MR*** MR***	MR*** MR***	2/Month
OTHER MONITORING REQUIREMENTS								
Acrolein	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <1.0 <0.0 - <1.0 0/56	MR MR	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
Bromoform	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	0.016 0.07 3/53	MR MR	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
Di-n-octyl Phthalate	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	MR MR	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
N-nitrosodimethyl-amine	kg/day	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.43 <0.0 - <0.43 0/56	MR MR	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
PFNA – Effluent	µg/L	Monthly Avg. Daily Max.	-- --	-- --	-- --	-- --	MR MR	1/Week
PFOA – Effluent	µg/L	Monthly Avg. Daily Max.	3.40 22	MR MR	-- --	-- --	MR MR	1/Week

OTHER DETECTED PARAMETERS							
PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2011 – 4/2016	OCPSF LIMITS	CWT LIMITS	FINAL LIMITS (OCPSF + CWT)	MONITORING FREQUENCY
Beta Endosulfan	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.03 0.1 10/46	-- --	-- --	MR MR	1/Month
Trivalent Chromium	µg/L	Monthly Avg. Daily Max. # Det. /# N.D..	3.77 12 35/11	-- --	-- --	MR MR	1/Month
Endosulfans, Total	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.04 0.2 8/48	-- --	-- --	MR MR	1/Month
Gamma BHC	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.009 0.028 15/41	-- --	-- --	MR MR	1/Month
Heptachlor	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.03 <0.0 - <0.03 0/56	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
Heptachlor Epoxide	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	<0.0 - <0.1 <0.0 - <0.1 0/56	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
Barium	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	76.17 142	-- --	-- --	MR MR	1/Quarter
Delta BHC	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	0.042 0.09 8/48	-- --	-- --	MR MR	1/Quarter
Isophorone	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	1.0 3.0 1/55	-- --	-- --	MR (3) MR (3)	1/Quarter (WCR)
Manganese	µg/L	Monthly Avg. Daily Max.	265.3 949	-- --	-- --	MR MR	1/Quarter
Phenolics	µg/L	Monthly Avg. Daily Max. # Det. /# N.D.	49 110 4/12	-- --	-- --	MR MR	1/Quarter
WHOLE EFFLUENT TOXICITY							
Acute WET – *Pimephales promelas* *Ceriodaphnia dubia*	% 	Minimum	71.7 16	50 --	-- --	-- 50(2)	1/Quarter

Footnotes and Abbreviations for DSN 662A:

MR Monitor and report only

* Monitoring is also required on a concentration basis.

** Monitoring is also required on a mass loading basis.

*** In plant limitations for cyanide of 178 mg/L as a monthly average and 500 mg/L as a daily maximum have been specified as a narrative condition in Part IV as per the CWT ELG at 40 CFR Part 437.42(b)(2).

(1) In this renewal permit the permittee shall also monitor and report only for monthly average and daily maximum concentration for the OCPSF parameters.

(2) The permittee shall meet the Acute WET Action Level of LC50≥50%.

(3) Sampling for these parameters has been moved from the monthly DMR to the quarterly WCR.

(4) These final limits were derived using the EPA building block approach and includes OCPSF and CWT limits shown in the columns to the left as well as allocations for the secondary standards as shown in the basis and background for these parameters.

DSN 013A (Non-Contact Cooling Water)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA	EXISTING LIMITS	FINAL LIMITS	MONITORING FREQUENCY
Flow, Effluent	MGD	Monthly Avg. Daily Max. # data points	2.0 17.3	MR MR	MR MR	1/Month
Flow, Intake	MGD	Monthly Avg. Daily Max. # data points	2.22 20.1	MR MR	MR MR	1/Month
Oil and Grease	mg/L	Monthly Avg. Daily Max. # Det. /# N.D.	2.71 4.0 17/39	10 15	10 15	1/Month
pH	S.U.	Minimum Maximum	5.0 7.8	6.0 9.0	6.0 9.0	1/Month
Temperature	Degrees Celsius	Monthly Avg. Daily Max.	16.02 35	MR 42.8	MR 42.8	1/Day
Total Suspended Solids – Intake	mg/L	Monthly Avg. Daily Max.	45.46 112	MR MR	MR MR	1/Month
Total Suspended Solids – Effluent	mg/L	Monthly Avg. Daily Max.	42.79 96	MR MR	MR MR	1/Month
Total Suspended Solids – Net	mg/L	Monthly Avg. Daily Max.	-2.64 33	MR 50	MR 50	1/Month
Dissolved Organic Carbon – Intake	mg/L	Monthly Avg. Daily Max.	4.19 10	MR MR	MR MR	1/Month
Dissolved Organic Carbon – Effluent	mg/L	Monthly Avg. Daily Max.	4.09 12	MR MR	MR MR	1/Month
Dissolved Organic Carbon – Net	mg/L	Monthly Avg. Daily Max	-0.03 8.0	MR 20	MR 20	1/Month
Chlorine Produced Oxidants	mg/L	Monthly Avg. Daily Max.	0.03 0.1	MR 0.2	MR (1) 0.2 (1)	1/Month

Footnotes:

(1) 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.

12 Contents of the Administrative Record

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

Rules and Regulations:

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

Guidance Documents / Reports:

1. "Field Sampling Procedures Manual", published by the NJDEP.
2. "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.
3. "EPA Technical Support Document for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [B]
4. New Jersey's 2014 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A]
5. DRBC docket No. D-1988-085-03 approved on May 11, 2011 and expired on May 11, 2016.

Permits / Applications:

1. NJPDES/DSW Permit Application dated February 26, 2016, March 1, 2016 and July 27, 2016
2. Existing Draft NJPDES/DSW Permit NJ0005100, issued June 9, 2011.
3. Existing Final NJPDES/DSW Permit NJ0005100, issued July 20, 2011 and effective September 1, 2011.
4. Minor Modification to NJPDES/DSW Permit NJ0005100, issued October 4, 2011 and effective on September 1, 2011 that corrected some sample types and the monitored location description for SQAR.
5. Minor Modification to NJPDES/DSW Permit NJ0005100, issued October 17, 2011and effective on September 1, 2011 that corrected the reporting units for fluorene for DSN 662A.

Correspondences:

1. Correspondence from the Department to Tim McDaniel of Chemours dated March 17, 2015 requiring monitoring for PFCs.
2. Correspondence from Dawn Hughes of Chemours to Pilar Patterson of the Department dated May 5, 2015 responding to the Departments March 17, 2015 letter on PFC monitoring.

Meetings / Site Visits:

1. Site Visit on July 5, 2016.

Footnotes:

[A] Denotes items that may be found on the New Jersey Department of Environmental Protection (NJDEP) website located at "http://www.state.nj.us/dep/".

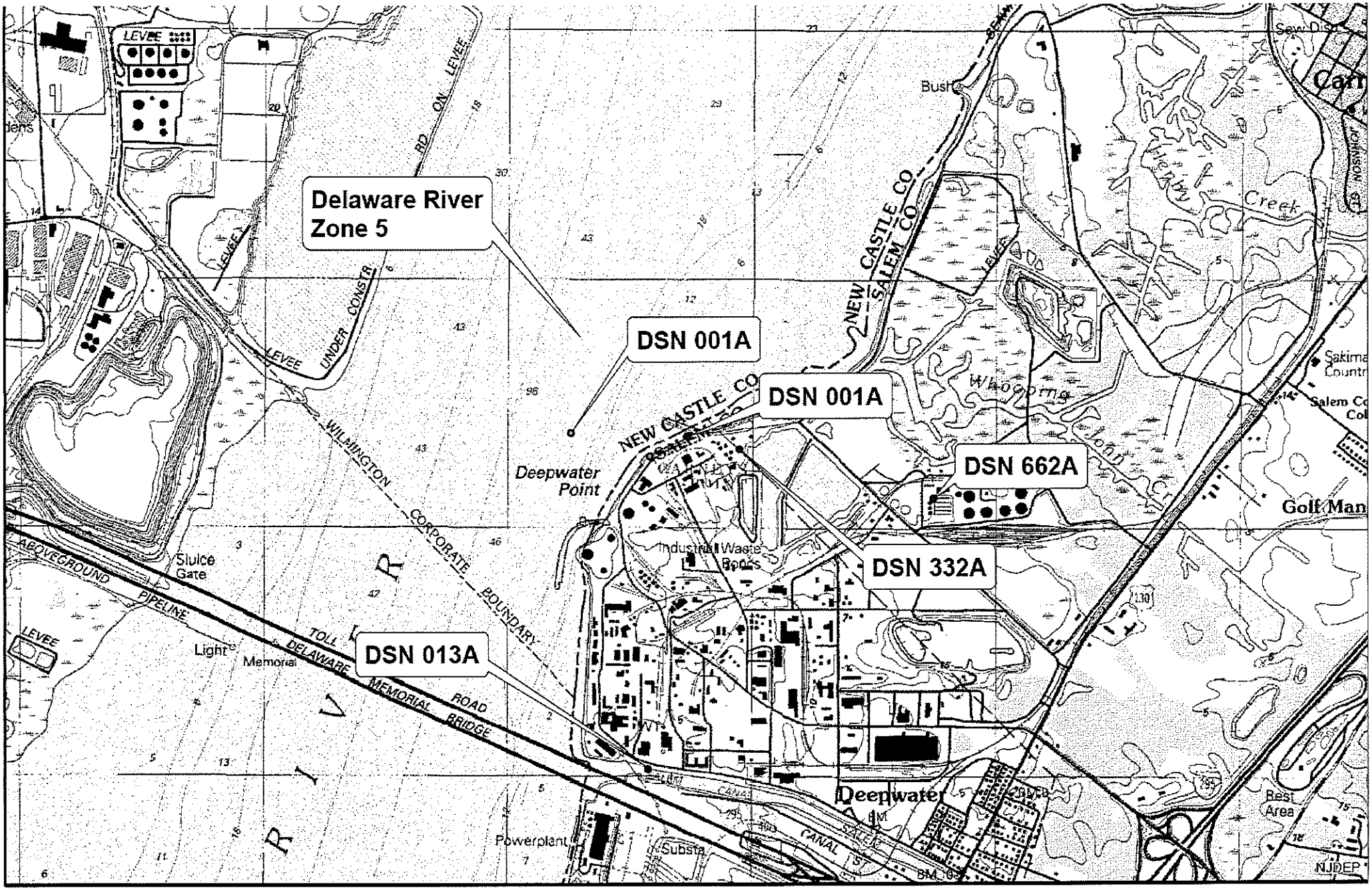
[B] Denotes items that may be found on the United States Environmental Protection Agency (USEPA) website at "http://www.epa.gov/".

Table A: Effluent limitation analysis for the Toxic Metals, Organic Compounds, Cyanide, and other pollutants; effluent flow of 20 MGD and stream hardness of 91.5 mg/L.

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Maximum reported data value (µg/L) ** **A**	DRBC Acute Criteria * (µg/L)	Dilution Factor (Df)	Calculated instream WLA DRBC Criteria x Df (µg/L) * **B**	"Cause" Y = yes N = no **A > B?**	Aquatic criteria LTA (µg/L) **	Water quality based limit, if applicable (µg/L) **
Total Recoverable Copper	Sept. 2011 to April 2016	(dt) = 56 (nd) =0	0.38 (ca)	10.9 (max)	11.69	18	(a) = 210.42	(a) = N	(a) = 106.24	MDL = 231.7 AML = 161.1 **NOT IMPOSED**
Total Recoverable Mercury	Sept. 2011 to April 2016	(dt) = 9 (nd) = 9	0.89 (ca)	0.085 (max)	1.4	18	(a) = 25.2	(a) = N	(a) = 6.69	MDL = 29.6 AML = 16.8 **NOT IMPOSED**
Total Recoverable Lead	Sept. 2011 to April 2016	(dt) = 56 (nd) = 0	0.52 (ca)	29.64 (max)	38	18	(a) = 684	(a) = N	(a) = 343.4	MDL = 946.1 AML = 600.6 **NOT IMPOSED**
Total Recoverable Zinc	Sept. 2011 to April 2016	(dt) =54 (nd) = 0	1.8 (ca)	43.7 (max)	105.57	18	(a) =1900.26	(a) = N	(a) = 251.4	MDL = 2000.3 AML = 1122 **NOT IMPOSED**
Total Recoverable Nickel	Sept. 2011 to April 2016	(dt) = 56 (nd) = 0	0.44 (ca)	47.38 (max)	368.19	18	(a) = 6627.42	(a) = N	(a) = 3239.1	MDL = 7833.8 AML = 5223.5 **NOT IMPOSED**
Total Recoverable Arsenic	Sept. 2011 to April 2016	(dt) = 32 (nd) = 24	0.29 (ca)	8.0 (max)	340	18	(a) = 6120	(a) = N	(a) = 32973	MDL = 6120 AML = 4559 **NOT IMPOSED**
Total Recoverable Selenium	Sept. 2011 to April 2016	(dt) = 17 (nd) = 39	0.28 (ca)	11 (max)	20	18	(a) = 360	(a) = N	(a) = 197.5	MDL = 6.7 AML = 5.0 **NOT IMPOSED**
Hexavalent Chromium	Sept. 2011 to April 2016	(dt) = 9 (nd) = 47	0.38 (ca)	1.84 (max)	15	18	(a) = 270	(a) = N	(a) = 134.8	MDL = 293.8 AML = 204.3 **NOT IMPOSED**
Total Recoverable Cadmium	Sept. 2011 to April 2016	(dt) = 11 (nd) = 22	0.43 (ca)	0.3 (max)	1.27	18	(a) = 22.86	(a) = N	(a) = 14.6	MDL = 35.1 AML = 23.4 **NOT IMPOSED**

Footnotes and Abbreviations:

(dt) = Data values detected.
(nd) = Data values non-detected.
(d) = Default CV
(ca) = Calculated from data set.
(max) = Maximum
(LTAeq) = Long Term Average equivalent
(a) = acute aquatic
(c) = chronic aquatic
(h) = human health non-carcinogen
(hc) = human health carcinogen
(*) = Dissolved
(**) = Total Recoverable
LTA = Long Term Average
WLA = Waste Load Allocation
MDL = Maximum Daily Limit
AML = Average Monthly Limit
EEQ = Existing Effluent Quality
N/A = Not Applicable
MR = Monitor and Report



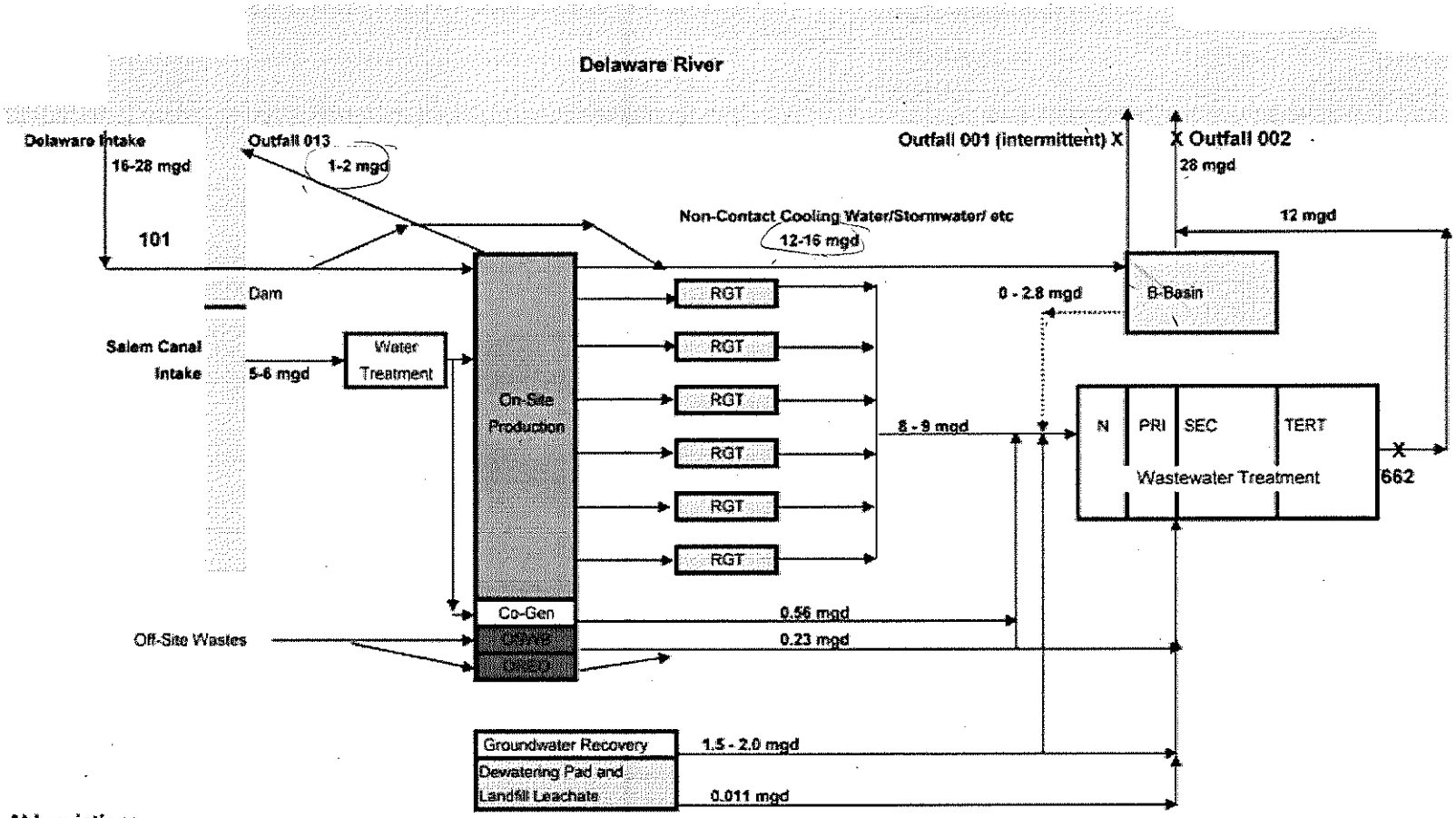
USGS Topographical Map
Chemours Co. FC LLC
Chambers Works
Pennsville Twp., Salem County
Sub-Watershed: Delaware River 5

N
W E
S

0 0.225 0.45 0.9 Miles

DuPont Chambers Works NJPDES Permit Application
Form C - Attachment B
Line Drawing / Water Flow Diagram - Item 3B

(Highest Yearly Average flow in the past 5 years "2005" Data set)



Abbreviations

OSWB = Outside Waste Business
B-Basin = Sedimentation Basin
Production = On-site manufacturing opts
RGT = Regional Wastewater Tanks
CoGen = CoGeneration Facility
OREO = Organics Recovery Pretreatment (OSWB)
(Steam Stripper)

2/11/2011

Rev 1

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

Draft: Surface Water Renewal 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	PENDING	PENDING	PENDING

By Authority of:
Commissioner's Office

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:** **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	Metered
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:** **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

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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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

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:** **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:** **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 48hr Acu Ceriodaphnia	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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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:** **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 indicates that this facility contributes to 99% of the cumulative loadings 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.

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.

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. Prior to accepting for treatment and discharge 50,000 gallons per day or more (as a daily average) of wastewater that is imported from outside the Delaware River Basin, the permittee shall first apply to and obtain approval from the Delaware River Basin Commission.

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)

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

TABLE OF CONTENTS

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 ≥15 young per surviving female
Selenastrum capricornutum	Density ≥$2x10^5$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
08625-0029

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 08625-0029

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