

DOCKET NO. D-1971-086-4

DELAWARE RIVER BASIN COMMISSION

**The Chemours Company FC, LLC
A Wholly Owned Subsidiary of E. I. du Pont de Nemours and Company
DuPont Edge Moor Industrial Wastewater Treatment Plant
New Castle County, Delaware**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by E. I. du Pont de Nemours and Company (DuPont or docket holder) on July 1, 2013 (Application), for renewal of DRBC approval of the docket holder's existing Edge Moor industrial wastewater treatment plant (IWTP) and related discharges. DuPont reorganized its Performance Chemicals business on February 1, 2015, and the Edge Moor facility became part of The Chemours Company FC, LLC (Chemours), a wholly owned subsidiary of DuPont. Chemours will become a totally separate publicly traded company on or about July 1, 2015, and will continue to operate the Edge Moor facility. Draft National Pollutant Discharge Elimination System (NPDES) Permit No. DE000000051 for this facility was issued by the Delaware Department of National Resources and Environmental Control (DNREC) on February 4, 2015.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact (Compact)*. The New Castle County Department of Land Use and Planning has been notified of pending action. A public hearing on this project was held by the DRBC on March 10, 2015.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew approval of the existing 5.2 million gallons per day (mgd) DuPont Edge Moor IWTP and related discharges of treated industrial wastewater, stormwater and non-contact cooling water (NCCW). There are no modifications to the operations of the facility proposed.

2. Location. The docket holder's Edge Moor titanium dioxide processing facility and its associated IWTP is located between Hay Road and the Delaware River, just north of the City of Wilmington in Edge Moor, New Castle County, Delaware. The IWTP will continue to discharge to Water Quality Zone 5 of the Delaware River at River Mile 73.4.

The project outfalls are located in the Delaware River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001 (IWTP)	39° 45' 11.38"	75° 29' 21.28"
002 (NCCW) *	39° 45' 09.8"	75° 29' 42.6"
003 (NCCW)	39° 44' 41.3"	75° 30' 01.4"

* Currently, Outfall 002 only discharges stormwater (See Section A.4.b. below)

The facility also discharges stormwater only via Outfalls 004 through 010.

3. Area Served. The docket holder's IWTP will continue to serve the DuPont Edge Moor titanium dioxide processing facility and supporting operations located in Edge Moor, New Castle County, Delaware.

For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, as set forth in Condition II.j. of the DECISION Section of this docket.

4. Physical features.

a. Design criteria. The docket holder's IWTP has an average daily design flow of 5.2 mgd and treats the process wastewater associated with the production of titanium dioxide, titanium tetrachloride, and ferric chloride. Prior to being directed to the IWTP for treatment, the facility production streams undergo physical and chemical processes, including scrubbing, chemical reaction/precipitation, neutralization, and filtration. Wastewater from the production streams is directed to the IWTP, whose treatment processes include equalization, neutralization, settling/clarification, and filtration. The facility also has a cooling tower to reduce heat. The cooling tower water is treated with chlorine to reduce biofouling.

b. Facilities. The DuPont Edge Moor manufacturing facility and supporting operations consist of the reaction, oxidation, titanium dioxide finishing, and co-product area. In the reaction area, titanium-bearing ores are chlorinated to produce four major streams:

1. a tail gas stream containing the non-condensable vapors formed in the process
2. pure titanium tetrachloride
3. ferric chloride solution
4. aqueous metal chloride solution containing coke & ore solids formed during ore chlorination

Wastewater generated from these four streams is directed to the IWTP prior to discharge. The facilities, industrial processes and wastewater treatment operations are described in detail in DRBC Docket No. D-1971-086-3, which was approved on March 31, 2010.

The outfall for the IWTP (Outfall 001) consists of a 10-inch diameter fiberglass reinforced plastic (FRP) force main that extends 689 ft (210 m) into the Delaware River, and includes a multi-port diffuser. The outfall pipe alignment is approximately 125 degrees from true north (clockwise) and roughly perpendicular to ambient river currents. The diffuser consists of a 3-port, 6-inch diameter diffuser with ports spaced 7.5 m apart (total diffuser length of 15 m).

The diffuser is approximately 9 m deep at low tide. The ports are oriented vertically to maximize the travel time of the plume to contact with the bottom since the discharge is more dense than that of the river. The diffuser is aligned perpendicular to the shoreline and ambient currents to maximize mixing of the effluent with the river. Below is a description of the discharge make-up of the facility process water outfalls. The facility also discharges stormwater only via Outfalls 004-010.

Outfall 001: The docket holder's 5.2 mgd IWTP receives wastewater, process and stormwater flows from the titanium dioxide production facility, located entirely within the Edge Moor facility for discharge via Outfall 001 to the Delaware River. The IWTP does not receive any off-site wastes.

Outfall 002: The docket holder is permitted to discharge an average daily flow of 2.89 mgd of NCCW (& stormwater) from the ferric chloride heat exchanger from Outfall 002 to the Delaware River. NCCW discharges from Outfall 002 were discontinued in August, 2004, and therefore this outfall currently only discharges stormwater.

Outfall 003: The docket holder is permitted to discharge an average daily flow of 5.9 mgd of NCCW (& stormwater) from Line II (reaction, purification, oxidation, and finishing activities) operations from Outfall 003 to the Delaware River.

The project facilities are not located in the 100-year floodplain.

Wasted sludge will continue to be hauled off-site by a licensed hauler for disposal at a state-approved facility.

c. Water Supply / Sanitary Wastewater. The process water supply is provided by a surface water intake on the Delaware River owned and operated by the docket holder. DuPont was granted Certificate of Entitlement No. 179 ("Entitlement") on July 15, 1976. The Entitlement approved a withdrawal of 802.239 million gallons per month (mgm) non-consumptive use and 16.372 mgm consumptive use, for a total withdrawal of 818.611 mgm. The Entitlement will be terminated when DuPont ceases to own Chemours, which is expected to occur on or about July 1, 2015. In anticipation of the transfer of ownership, Chemours submitted a surface water withdrawal docket application to the Commission on February 10, 2015. In accordance with Condition II.k. in the Decision Section of this docket, upon the transfer of the facility to Chemours, Chemours is approved to continue to withdraw surface water up to the (consumptive and non-consumptive) amounts included in Entitlement No. 179 until the Commission takes action on the pending surface water withdrawal docket application. Thereafter, Chemours shall comply with the terms and conditions of the surface water withdrawal docket issued by the Commission.

The potable water supply for the facility is provided by United Water, which is described in detail in Docket No. D-1996-050 CP-2, approved on January 19, 2005.

Sanitary wastewater generated at the facility is sent to the City of Wilmington wastewater treatment plant (WWTP) for treatment and discharge to the Delaware River. The

City of Wilmington WWTP was approved by DRBC Docket No. D-1998-026 CP-1 on November 15, 2000.

d. NPDES Permit / DRBC Docket. DNREC issued draft NPDES Permit No. DE00000051 for the project discharge on February 4, 2015, which includes effluent limitations for the project discharge of 5.2 mgd via Outfall 001 to the Delaware River Water Quality Zone 5. DRBC has requested modifications to these effluent limitations and additional requirements to be included in the final NPDES permit as indicated below. DNREC has indicated that the final NPDES permit will contain the following average monthly effluent limits that meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC Parameters to be Included in final NPDES permit for Outfall 001

OUTFALL 001 (Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times*	Continuous
Total Suspended Solids	20 mg/l	Three times per week
BOD (5-Day at 20° C)**	30 mg/l 1,300 pounds/day	Once per month
Temperature***	112 ° F (Instantaneous Max)	Continuous
Acute Whole Effluent Toxicity (WET) ****	6.7 TUa	Once per two months
Chronic Whole Effluent Toxicity (WET)	Monitor & Report**	Once per six months
Total Chromium	0.15 mg/l	Once per month
Total Nickel	0.20 mg/l	Once per quarter
Total Lead	0.10 mg/l*****	Once per two months
Total Copper	Monitor & Report*****	Once per two months
PCBs	Monitor & Report*****	Once per quarter
Specific Conductance	Monitor & Report	Once per month

* 99% of time during any calendar month, per NPDES permit

** See FINDINGS Section

*** See FINDINGS Section and DECISION Condition II.h.

**** Acute WET tests to be performed on both cladoceran (*Daphnia magna*) and the fathead minnow (*Pimephales promelas*). Calculation of compliance with the whole effluent toxicity limit will be based upon a 12-month moving average. See FINDINGS section.

***** Total Copper and Total Lead effluent testing is to be performed on the same samples taken for acute WET monitoring. See FINDINGS section.

***** See FINDINGS Section and DECISION Condition II.t.

The following average monthly effluent limits for Outfall 002 are based on an average daily flow of 2.89 mgd, and are among those listed in the draft NPDES permit that meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-2: DRBC Parameters Included in draft NPDES permit for Outfall 002

OUTFALL 002 (Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
Temperature*	110 ° F (Instantaneous Max)	As required by NPDES permit
pH	6 to 9 **	As required by NPDES permit
Total Suspended Solids	Monitor & Report	As required by NPDES permit
PCBs***	Monitor & Report	As required by NPDES permit

* See FINDINGS section and DECISION Condition II.h.

** 99% of time during any calendar month, per NPDES permit

*** See FINDINGS Section and DECISION Condition II.t.

The following average monthly effluent limits for Outfall 003 are based on an average daily flow of 5.9 mgd, and are among those listed in the draft NPDES permit that meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-3: DRBC Parameters Included in draft NPDES permit for Outfall 003

OUTFALL 003 (Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
Temperature*	112 ° F (Instantaneous Max)	As required by NPDES permit
pH	6 to 9 **	As required by NPDES permit
Total Suspended Solids	Monitor & Report	As required by NPDES permit
PCBs***	Monitor & Report	As required by NPDES permit

* See FINDINGS section and DECISION Condition II.h.

** 99% of time during any calendar month, per NPDES permit

*** See FINDINGS Section and DECISION Condition II.t.

B. FINDINGS

This docket renews approval of the docket holder's existing 5.2 mgd IWTP and the discharge of treated industrial wastewater, stormwater and NCCW. No changes to the IWTP treatment facilities are proposed.

Transfer of Ownership

The Edge Moor facility became part of Chemours, a wholly owned subsidiary of DuPont on February 1, 2015. Chemours will become a totally separate publicly traded company on or about July 1, 2015, and will continue to operate the Edge Moor facility. This docket shall remain in effect and continue to apply to Chemours' operation of the Edge Moor facility upon Chemours' assumption of ownership of the Edge Moor facility on or about July 1, 2015, at which time Chemours shall become the docket holder referred to herein. Chemours is required to notify the DRBC of the transfer of ownership of the facility within ten (10) days after the date of the transfer. See DECISION Condition II.f.

Acute Toxicity Mixing Zone

Zone 5 stream quality objectives exist for toxic pollutants. They include criteria to protect the taste and odor of ingested water and fish (Table 4 of the DRBC Water Quality Regulations or WQR), to protect aquatic life (Table 5 of the WQR), and to protect human health (Tables 6 & 7 of the WQR). Toxicity in effluent is measured as Whole Effluent Toxicity (WET), and results from both acute and chronic exposures. The acute toxicity stream quality objective for Zone 5 is 0.3 Toxic Units (TU_a = 0.3). The chronic toxicity stream quality objective for Zone 5 is 1.0 Toxic Units (TU_c = 1.0). The Edge Moor facility IWTP discharge (Outfall 001) exceeds the stream quality objective for acute and chronic WET. A principal source of toxicity is elevated concentrations of calcium chloride salt in the docket holder's industrial wastewater discharge due to the large amount of neutralized materials from manufacturing. The main sources of calcium chloride come from the neutralization of the HCl scrubber wastewater and the neutralization of spent ore.

The Commission regulations, however, provide for site-specific mixing zones for acute toxicity. Outfall 001 is located approximately 4.5 miles upstream of the Delaware Memorial Bridge, which defines the demarcation point between marine and fresh water in the Delaware River.

WQR Section 4.20.5.A.1.a specifies guideline dimensions for an acute mixing zone as the more stringent of:

- 1). A distance of 50 times the discharge length scale in any direction from the outfall structure, or
- 2). A distance of 5 times the local water depth in any direction from the outfall structure.

The discharge length scale is defined as the square root of the discharge cross-sectional area. For the existing diffuser discharge, the discharge cross-sectional area is 0.2 ft². The local water depth is 29.5 ft (9m). The resulting guideline acute mixing zone as calculated is either:

- 1). $50 * (\sqrt{0.2}) = 22 \text{ ft (6.8 meters)}$
or
- 2). $5 * 29.5 = 148 \text{ ft (45 meters)}$

Therefore, the guideline acute mixing zone is 22 ft (6.8 meters).

During the review of DRBC Docket No. D-1971-086-2, the docket holder indicated that based on historic outfall data from 1997 – June 1998, which was a time when calcium chloride concentrations were elevated due to sustained high production levels, and expected production levels at the Edge Moor facility, that the calculated dilutions at the guideline dimensions for the acute mixing zone were insufficient for the docket holder to reliably meet the acute WET limit of 5.54 TU_a.

WQR Section 4.20.5.A.1.f. reads:

Upon the request of one or more dischargers, the Executive Director may consider request for alternatives to the requirements of subsections a. through e. of Section 4.20.5.A.1. Such requests shall provide a demonstration that the alternative requirement requested will not adversely impact free-swimming, drifting and benthic organisms. The demonstration(s) shall provide a sound rationale, and be supported by substantial scientific data and analysis. The methodology and form of the demonstration shall be approved by the Executive Director. The Executive Director may reject any requests which are not substantive. The Commission may establish alternative areas where acute stream quality objectives may be exceeded based upon the evaluation of submitted demonstrations.

DuPont requested an alternative acute mixing zone of 31 ft (9.43 m) to ensure that permit limits can be reliably achieved at the manufacturing facility during near capacity production levels. The docket holder submitted a final report entitled “DuPont Edge Moor Alternative Mixing Zone Assessment – October 31, 2007” on November 5, 2007 (the AMZ Report), that supported their request for an alternative acute mixing zone pursuant to WQR Section 4.20.5.A.1.f. The alternative acute mixing zone was predicated upon the construction of an outfall extension and diffuser for Outfall 001.

IWTP Flow (MGD)	Acute Mixing Zone Dilution Factor with Diffuser	
	Guideline (22 ft / 6.8 m)	Alternative (31 ft / 9.43 m)
2	26.8	28.2
3.14	32.1	39.25
5	76.0	76.1
5.2	72.9	73.1

DRBC granted the docket holder the requested alternative acute mixing zone for Outfall 001 of 31 ft (9.43 m) via Docket No. D-1971-086-2, approved on December 12, 2007, and continued via Docket No. D-1971-086-3, approved on March 31, 2010. On December 22, 2010, the docket holder advised the DRBC that the outfall extension and diffuser for Outfall 001 was completed. This docket (D-1971-086-4) continues the approval of the alternative acute mixing zone and associated dilution factor for the IWTP discharge from Outfall 001.

DRBC Docket Nos. D-1971-086-2 and D-1971-086-3 included an acute WET limit of 6.7 TUa at the IWTP outfall (Outfall 001), to be calculated as a 4-quarter moving average. This limit was also included in the currently effective NPDES Permit No. DE000051, which was issued by DNREC on November 30, 2008, and modified, effective February 1, 2008. The acute WET limit of 6.7 TUa was the permit limit that the docket holder expected to reliably achieve in the effluent from Outfall 001 during near capacity facility production levels after the installation of the outfall extension and diffuser. 6.7 TUa was the maximum 4-quarter moving average effluent limitation allowable at a design flow of 5.2 mgd in order to not exceed the in-stream acute WET criteria of 0.3 TUa at the edge of the alternative mixing zone. This docket (D-1971-086-4) continues the approval of the guideline acute mixing zone, alternative acute mixing zone,

dilution factor and acute toxicity limit of 6.7 TUa for the discharge from Outfall 001. See EFFLUENT TABLE A-1 in Section A.4.d. of this docket.

Toxicity (Acute and Chronic) and Metals Testing

Acute toxicity data collected from 2008 to 2014 suggested that the observed acute toxicity of the effluent was not solely related to chloride concentrations, as measured by specific conductivity monitoring required in the previous docket. Review of the Application for reissuance of the NPDES permit for the facility also indicated elevated levels of copper and lead that may be contributing to the observed acute toxicity. Therefore, monitoring for Total Copper and Total Lead required in EFFLUENT TABLE A-1 of this docket shall be performed on the same samples taken for acute WET monitoring, as required in the draft NPDES permit. Chronic WET sampling shall be performed according to the draft NPDES permit requirements.

Thermal Mixing Zone

Zone 5 stream quality objectives for temperatures require that the ambient river temperature shall not be raised by more than 4°F (2.2°C) during September through May, nor 1.5°F (0.8°C) during June through August, nor shall the maximum temperature exceed 86°F (30.0°C). The Commission's Interpretive Guideline No. 1 also requires an effluent limitation of 110°F (43.3°C) where the discharge is readily accessible to human contact for the protection of Public Safety.

The docket holder submitted a final report titled "DuPont Edge Moor Thermal Mixing Zone Analysis for Outfall 001 Effluent Diffuser – November 5, 2007" on November 5, 2007. The analysis was completed for a discharge temperature of 112°F at effluent flows of 2, 3.14, 5 and 5.2 mgd, and utilized the CORMIX Model.

In addition to DRBC thermal requirements, the discharge is also subject to the Delaware Department of Natural Resources and Environmental Control's (DNREC) Thermal Regulations (Section 4.5.1.1 and Section 6.4.2). The discharge is controlled by the more stringent of the two criteria. In summary, the DRBC's temperature rise criteria and DNREC's maximum true daily mean and daily maximum temperature criteria control the discharge requirements. The Delaware River's width at the point of discharge is ~ 6,070 ft (1,850 m), which corresponds to a DNREC determined maximum mixing zone width of 3,035 ft (925 m) and a DRBC determined maximum mixing zone length of 3,500 ft (1,067 m). The DNREC maximum thermal mixing zone cross-sectional area is 49,788 ft² (4,625 m²) for the Delaware River, where the width is 6,070 ft (1,850 m) and average depth is 29.5 ft (9 m).

DuPont modeled the outfall's 3-Port diffuser discharge with ambient river temperature scenarios and at critical conditions (low water, slack tide). The ambient river temperature data consisted of USGS daily temperature records taken at the Delaware Memorial Bridge (approximately 4.5 miles downstream from Outfall 001) from 1965 to 1981. DuPont's modeling efforts indicated that a thermal mixing zone 49.2 ft (15 m) upstream, 49.2 ft (15 m) downstream, and 148 ft (45 m) laterally from the diffuser was required to satisfy DRBC & DNREC thermal requirements. In total, the thermal mixing zone would be ~ 98 ft (30 m) in the longitudinal

direction and 148 ft (45 m) in the lateral direction centered on the diffuser (including the 49.2 ft/15 m size of the diffuser itself). The thermal mixing zone is within the allowable mixing zone size limitations.

Outfall No. 1	<u>Actual Thermal Mixing Zone</u>	<u>Allowable Thermal Mixing Zone</u>
Length:	98 ft / 30 m	3,500 ft / 1,067 m
Width:	148 ft / 45 m	3,035 ft / 925 m
Cross Sectional Area (Width X Depth) (depth = 29.5 ft / 9 m)	4,366 ft ² / 405 m ²	49,788 ft ² / 4,626 m ²

DRBC granted the docket holder a thermal mixing zone for Outfall 001, consisting of a length of 98 ft (30 m) and a width of 148 ft (45 m) and a depth of 29.5 ft (9 m), centered on the diffuser, for a total area of 4,366 ft² (405 m²), via Docket No. D-1971-086-2, approved on December 12, 2007, and continued via Docket No. D-1971-086-3, approved on March 31, 2010. This docket (D-1971-086-4) continues the approval of the thermal mixing zone for the IWTP discharge from Outfall 001. See DECISION Condition II.h.

DRBC granted the docket holder a thermal mixing zone for Outfall 002, consisting of 400 foot radii around Outfall No. 002, via Docket No. D-1971-086-1, approved on July 27, 1973, and continued via Docket Nos. D-1971-086-2 and D-1971-086-3, approved on December 12, 2007 and March 31, 2010, respectively. This docket (D-1971-086-4) continues the approval of the thermal mixing zone for the NCCW discharge from Outfall 002. See DECISION Condition II.h.

DRBC granted the docket holder a thermal mixing zone for Outfall 003, consisting of a length of 2,953 ft (900 m and a width of 328 ft (100 m)), both upstream and downstream of the outfall, for a total length of 5,906 ft (1,800 m), via a letter dated September 8, 1998. This thermal mixing zone was continued via Docket Nos. D-1971-086-2 and D-1971-086-3, approved on December 12, 2007 and March 31, 2010, respectively. This docket (D-1971-086-4) continues the approval of the thermal mixing zone for the NCCW discharge from Outfall 003. See DECISION Condition II.h.

Total Dissolved Solids (TDS)

Zone 5 stream quality objectives do not explicitly include TDS. As a consequence, the Commission finds that Basinwide TDS requirements are not always applied in Zone 5. The Commission reserves the right, in accordance with the WQR and the *Rules of Practice and Procedure*, to apply the Basinwide TDS requirements in Zone 5 when and where it determines that the requirements are necessary to protect water uses in Zone 5.

The Commission's basin-wide TDS criteria is that 1) the receiving stream's resultant TDS concentration be less than 133% of background, and 2) the receiving stream's resultant TDS concentration be less than 500 mg/l. The TDS requirements may be evaluated for the Edge Moor facility's discharge because of its location several miles above the usual salinity line (250 mg/l

chlorides) of the Estuary. There are no public water supply intakes downstream of the docket holder's discharge.

The docket holder's TDS consists primarily of Calcium, Sodium, Chloride and Sulfate. TDS is formed during the neutralization of ferric chloride and hydrochloric acid with lime and sodium hydroxide. The docket holder has developed a correlation for its wastewater's chloride concentration and specific conductivity. The docket holder was required by DRBC Docket Nos. D-1971-086-2 and D-1971-086-3 to monitor both TDS and specific conductivity at Outfall 001 in order to develop a relationship between its TDS concentrations and specific conductivity, since there are other constituents of TDS other than just chlorides. The docket holder performed this monitoring, and therefore TDS monitoring has been removed from this docket. The docket holder shall continue to monitor for specific conductance at Outfall 001 in accordance with EFFLUENT TABLE A-1 in Section A.4.d. of this docket.

CBOD₂₀ Wasteload Allocation

The Commission's WQR provide for the allocation of the stream assimilative capacity where wastewater discharges would otherwise result in exceeding such capacity. It was determined in the 1960's that discharges to the Delaware Estuary be limited to a total of 322,000 lbs/day of carbonaceous biochemical (first stage) oxygen demand (CBOD₂₀). In accordance with the Regulations, the assimilative capacity of each Delaware Estuary zone minus a reserve was originally allocated in 1968 among the individual dischargers based upon the concept of uniform reduction of raw waste in a zone (Zones 2, 3, 4 and 5). The totals and percent reduction for each zone are given in Table 1 of the Commission's *Status of CBOD₂₀ Wasteload Allocations* (Revised October 1, 2000). The DuPont Edge Moor facility is located in Zone 5 at river mile 73.4. Zone 5 is allocated at 67,600 lbs/day of CBOD₂₀ and has a minimum percent removal requirement of CBOD₂₀ of 87.5%. The DuPont Edge Moor facility has had the following allocations of CBOD₂₀:

November 2, 1970	4,230 lbs/day CBOD ₂₀	(Reference # 18)
July 23, 1973	410 lbs/day BOD ₅	(Reference #62)
July 9, 1975	600 lbs/day CBOD ₂₀ = 410 lbs/day of BOD ₅	(Reference #64)
July 22, 1981	1,430 lbs/day CBOD ₂₀ = 1,300 lbs/day of BOD ₅	(Reference #117)

The current allocation of 1,430 lbs/day of CBOD₂₀ (1,300 lbs/day of BOD₅) is active for the Edge Moor facility. The current allocation is based upon a calculated allocation using the permitted flow from Outfall 001 (5.2 mgd) multiplied by the permit limit for BOD₅. In order to demonstrate compliance with the allocation of 1,430 lbs/day of CBOD₂₀, the docket holder is required to meet the 1,300 lbs/day of BOD₅ effluent limit included in the draft NPDES permit. See EFFLUENT TABLE A-1 in Section A.4.d. of this docket.

Section 3.10.6.D.2. of the Commission's Water WQR allow the basin-wide percent reduction requirement (85%) for biochemical oxygen demand (BOD) for dilute industrial wastewaters to be modified upon application. The docket holder has requested the removal of this requirement for BOD removal since their facility is an inorganic manufacturing facility and the resulting wastewater contains very low levels of BOD. Additionally, the IWTP is not designed to remove BOD. The docket holder has submitted data to show that the average BOD₅ effluent concentration from Outfall 001 was 2.77 mg/l from 2003 – 2007. The Commission has determined that the percent reduction for BOD is not applicable to this type of industrial wastewater.

PCBs

The docket holder shall continue to monitor Outfalls 001, 002, 003, 004, 005, 007, & 008 for PCBs as required in the draft NPDES permit. The docket holder shall continue to implement the Pollutant Minimization Plan (PMP) developed specifically for the Edge Moor facility. See DECISION Condition II.t.

Other

At the project discharge site, the Delaware River is tidal and its flow is regulated by upstream reservoir releases. The Trenton low flow target is 2,500 cfs (1.62 billion gallons per day). The addition of the tidal tributaries upstream of the discharge location at their Q7-10 flow and the low flow Trenton target results in a low-flow of approximately 4,318 cfs (2.79 billion gallons per day) for the Delaware River at the discharge location (River Mile 73.2).

- The ratio of this low flow to the average design wastewater discharge from Outfall No. 1 (5.2 mgd) is 536 to 1. (0.2 % of low flow)
- The ratio of this low flow to the average non-contact cooling water discharge from Outfall No. 2 (2.89 mgd) is 966 to 1. (0.1% of low flow)
- The ratio of this low flow to the average non-contact cooling water discharge from Outfall No. 3 (5.9 mgd) is 473 to 1. (0.21 % of low flow)

There are no surface water intakes of record for public water supply downstream of the project discharge. The closest upstream tidal surface water intake is located approximately 37 miles upstream of the docket holder's IWTP on the Delaware River, and is owned and operated by the Philadelphia Water Department.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the Commission's WQR.

C. DECISION

I. Effective on the approval date for Docket No. D-1971-086-4 below, Docket Nos. D-1971-086-2 and D-1971-086-3 are terminated and replaced by Docket No. D-1971-086-4.

II. The project and appurtenant facilities as described in the Section A "Physical features" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the DNREC in its NPDES permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the Commission's WQR.

d. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Modeling, Monitoring and Assessment Branch. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If an effluent limit set forth in this docket is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

e. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

f. Chemours is required to notify the DRBC of the transfer of ownership of the Edge Moor facility within ten (10) days after the date of the transfer. Upon transfer of ownership of the facility to Chemours, Chemours will become the docket holder referred to herein.

g. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

h. The discharge of wastewater shall not increase the ambient temperature of the receiving waters by more than 4°F (2.2°C) during September through May, nor 1.5°F (0.8°C) during June through August, nor shall such discharge result in stream temperatures exceeding 86°F (30.0°C) except within the following assigned heat dissipation areas:

Outfall No. 001: 98 ft (30 m) long X 148 ft (45 m) wide X 29.5 ft (9 m) deep (centered on diffuser)

Outfall No. 002: 400 ft radius around outfall

Outfall 003: 2,953 ft (900 m) long (both upstream and downstream of the outfall X 328 ft (100 m) wide, for a total length of 5,906 ft {1,800 m})

i. This docket continues the approval of a guideline acute mixing zone, an alternative acute mixing zone, and a dilution factor as described in the FINDINGS section of this docket.

j. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application.

k. This docket shall remain in effect and continue to apply to Chemours' operation of the Edge Moor facility upon Chemours' assumption of ownership of the Edge Moor facility on or about July 1, 2015. In addition, Chemours is approved to continue to withdraw up to 802.239 mgm non-consumptive use and 16.372 mgm consumptive use, for a total withdrawal of 818.611 mgm, as included in Entitlement No. 179, until the Commission takes action on Chemours' pending surface water withdrawal docket application. Thereafter, Chemours shall comply with the terms and conditions of the surface water withdrawal docket issued by the Commission. The Entitlement will be terminated when DuPont ceases to own Chemours.

l. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

m. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

n. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

o. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

p. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket

renewal application on the appropriate DRBC application form at least six (6) months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

q. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

r. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

s. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

t. The docket holder shall continue to submit monitoring data and PMP Annual Reports to the Commission's Modeling, Monitoring and Assessment Branch as required in the draft NPDES Permit.

BY THE COMMISSION

DATE APPROVED: March 11, 2015

EXPIRATION DATE: February 28, 2021