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**DOCKET NO. D-1985-059-3**

**DELAWARE RIVER BASIN COMMISSION**

**Brightsmith, LLC.  
Industrial Wastewater Treatment Plant  
Falls Township, Bucks County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on November 13, 2017 (Application) for renewal of the docket holder's existing industrial wastewater treatment plant (IWTP) and its discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0045021 for the facility discharge was issued by the Pennsylvania Department of Environmental Protection (PADEP) on October 21, 2013.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The Bucks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on February 13, 2019.

**A. DESCRIPTION**

- Purpose.** The purpose of this docket is to renew approval of the docket holder's existing 0.05 million gallons per day (mgd) IWTP and its associated discharges of treated industrial wastewater and non-contact-cooling water (NCCW). This docket also renews approval of a Total Dissolved Solids (TDS) determination for the IWTP discharge consisting of an average monthly effluent limit of 2,500 mg/l.
- Location.** The docket holder's coil coating facility is located on Enterprise Avenue in Falls Township, Bucks County, Pennsylvania. The facility will continue to discharge treated industrial wastewater and NCCW to a stormwater ditch that drains to Biles Creek, which is a tidal tributary to the Delaware River Water Quality Zone 2 at River Mile 130.3 – 1.9 (Delaware River – Biles Creek).

The project outfall is located in the Delaware River Watershed as follows:

<b>OUTFALL NO.</b>	<b>LATITUDE (N)</b>	<b>LONGITUDE (W)</b>
001	40° 10' 13"	74° 45' 46"

**3. Area Served.** The docket holder's IWTP will continue to treat industrial wastewater generated at the Brightsmith coil coating facility in Falls Township, Bucks County, Pennsylvania.

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, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

**4. Design criteria.** The docket holder's IWTP treats industrial wastewater generated by the activity of pretreating metal coil for subsequent coating with paint. The IWTP treatment processes include oil separation; chrome reduction; and metal precipitation.

The IWTP effluent discharge rate is limited by the capacity of the facility's two existing 20 gallon per minute (gpm) pumps. The discharge rates from the docket holder's 2012 NPDES renewal application are a maximum daily discharge rate of 0.05 mgd and an annual average discharge rate of 0.033 mgd, which are reflected in this docket approval.

**5. Facilities.** The IWTP treatment facilities are described as follows. Metals are cleaned by removing dirt and oil from the surface by immersion into a hot alkali solution bath. The oil separation process consists of pumping the solution through an oil coalescing separator to minimize the accumulation of floatable oils in the bath; adding sulfuric acid to lower the pH in order to convert emulsified oil to floatable oil; and pumping the oil water mixture into a quiescent stage where floatable oil can be skimmed and sent to a waste oil tank. Wastewater is discharged to 2 alkali holding tanks for further treatment.

Waste streams containing hexavalent chromium are pumped to 2 chrome holding tanks. The waste is treated in the chrome reduction unit, where the pH is kept low with sulfuric acid. Sodium metabisulfite is added to reduce the hexavalent chromium to trivalent chromium, which is later precipitated along with other metal hydroxides in a clarifier. Chrome reduction effluent flows to the alkali holding tanks, where it combines with other waste streams. Wastewater is pumped to a treatment unit for oil separation; chrome reduction; lime precipitation; and flocculation. The oil separation and chrome reduction units are secondary units that serve as back-up to the primary units described above.

Hydrated lime is added in the third stage to raise the pH to precipitate the metals as the hydroxides. Lime precipitation also removes the phosphates in the alkaline cleanser. Following precipitation, polymer is added to coagulate and flocculate the metal-bearing solids, after which the solids are settled in a clarifier. The clarifier directs the effluent to a sand filter unit to remove residual solids, and then to a pH adjustment tank for ultimate discharge. Solids are sent to a sludge thickener. Sludge is then pressed and dried to reduce volume.

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

6. **Water withdrawals.** Process water and potable water supply for the facility is provided by U.S. Steel Real Estate and which is described in detail in DRBC Docket No. D-2009-006-1, which was approved on December 8, 2010.

7. **NPDES Permit / DRBC Effluent Requirements.** NPDES Permit No. PA0045021 was issued by the PADEP on August 15, 2013, and includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting warm water fishes / migratory fishes (WWF/MF). EFFLUENT TABLES C-1 & C-2 included in Section C.1. contain effluent requirements for DRBC parameters that must be met as a condition of this approval. Effluent requirements for Outfall No. 001 are based on discharge rates of 0.0334 mgd.

## B. FINDINGS

This docket holder submitted an Application to renew approval of the existing 0.05 mgd Brightsmith IWTP and its discharge of treated industrial wastewater and NCCW. The docket holder also requested renewal of a total TDS determination for the IWTP discharge, consisting of an average monthly effluent limit of 2,500 mg/l.

### 1. Total Dissolved Solids Determination

Section 3.10.4.D.2 of the Commission's Water Quality Regulations (WQR) states the following:

*"Total dissolved solids shall not exceed 1000 mg/l, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers."*

The IWTP effluent occasionally exceeds 1,000 mg/l. TDS is generated from the IWTP processes, including 1) the addition of sulfuric acid to lower the pH in order to convert emulsified oil to floatable oil and 2) the addition of sodium metabisulfite to reduce the hexavalent chromium in its wastewater to trivalent chromium, as discussed in the Section A.5. Facilities, above.

On September 22, 1987 DRBC approved Docket No. D-1985-059-1 for the Brightsmith IWTP which included a TDS effluent limit of 1,700 mg/l for the IWTP. The hydraulic design flow rate of the IWTP at that time was 0.216 mgd, which equated to an allowable load of 3,062 pounds per day (lbs/day).

In the early 1990s, the facility implemented a water conservation program and structural and non-structural modifications to the IWTP that resulted in the reduction in the maximum daily discharge rate to 0.05 mgd. In a letter dated June 30, 1997, the DRBC Executive Director approved an increase in the average monthly TDS effluent concentration to 2,500 mg/l. The TDS increase was granted based on three considerations:

1) The allowable TDS effluent load resulting from the reduction in flow from 0.216 mgd to 0.05 mgd was decreased from 3,062 lbs/day (0.216 mgd @ 1,700 mg/l) to 1,043 lbs/day (0.05 mgd @ 2,500 mg/l);

2) The receiving stream (Biles Creek) at the IWTP outfall location is a tidal stream, which under low tide conditions is dry streambed with the exception of a small center channel flushed twice a day during the ebb cycle. The effects of any increased level of TDS in Biles Creek is overshadowed by the flushing twice a day during the ebb cycle; and

3) The Commission's basin-wide TDS effluent limit of 1,000 mg/l, the Commission's basin-wide in-stream TDS criteria is that the receiving stream's resultant TDS concentration shall not exceed 133% of the background (WQR Section 3.10.3.B.1.b.), The in-stream flow at which background TDS is to be determined is the minimum consecutive 7-day flow with a 10-year recurrence interval (referred to as the  $Q_{7-10}$  flow). The Delaware River has an estimated flow target of 2,500 cfs (1,613 mgd) at USGS Gage No. 01463500 (Delaware River at Trenton, NJ), approximately 4 miles upstream of the project discharge. Using a background TDS concentration of 200 mg/l (in accordance with Section 4.20.2.A. of the WQR for Delaware River Water Quality Zone 2), calculations indicate that the increase in TDS concentration in the Water Quality Zone 2 is less than 0.05% as a result of the TDS determination (0.05 mgd @ 2,500 mg/l) for the IWTP discharge, and therefore meets the requirement of not exceeding 133% of background.

Although the discharge exceeds DRBC's basin-wide TDS effluent limit of 1,000 mg/l, DRBC staff determined the discharge to be compatible with the WQR since the in-stream concentrations in the Delaware River are not expected to exceed 133% of the background and the assumptions have not included the impacts of the tidal flows. This docket continues approval of the TDS determination consisting of the average monthly effluent concentration limit of 2,500 mg/l.

## **2. Other**

The nearest surface water intake of record for public water supply is located on the Delaware River approximately 8 River Miles downstream of the docket holder's IWTP and is operated by the Lower Bucks County Joint Municipal Authority.

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

Effective on the approval date for Docket No. D-1985-059-3 below, Docket No. D-1985-059-2 is terminated and replaced by Docket No. D-1985-059-3, and the project and the appurtenant facilities described in Section A "DESCRIPTION" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

#### Monitoring and Reporting

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLE below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email [aemr@drbc.state.nj.us](mailto:aemr@drbc.state.nj.us) on the **Annual Effluent Monitoring Report Form** located at this web address: <http://www.state.nj.us/drbc/programs/project/pr/info.html>. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit 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. The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

**EFFLUENT TABLE C-1: DRBC Parameters Included in NPDES Permit for Outfall No. 001**

<b>OUTFALL 001 (Biles Creek)</b>		
<b>Parameter</b>	<b>Limit</b>	<b>MONITORING</b>
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids (TSS)	30 mg/l	As required by NPDES permit
Total Dissolved Solids*	2,500 mg/l	As required by NPDES permit
Temperature	110 ° F (instant max.)	As required by NPDES permit
Aluminum, Total	2.05 mg/l (instant max.)	As required by NPDES permit
Copper, Total	0.887 mg/l	As required by NPDES permit
Chromium, Hex	0.02 mg/l	As required by NPDES permit
Cyanide, Total	0.70 mg/l (instant max.)	As required by NPDES permit
Zinc, Total	1.37 mg/l	As required by NPDES permit

<b>OUTFALL 001 (Biles Creek)</b>		
<b>Parameter</b>	<b>Limit</b>	<b>MONITORING</b>
Selenium, Total	Monitor & Report	As required by NPDES permit
PCBs	Monitor & Report	As required by NPDES permit

\* See Condition C.15. in the DECISION section

2. The docket holder shall continue to submit Polychlorinated Biphenyl (PCB) monitoring data and PMP Annual Reports to the Commission's Science & Water Quality Management Branch as required in the existing NPDES Permit.

### **Other Conditions**

3. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F above the average 24-hour temperature gradient displayed during the 1961-1966 period, nor shall such discharge result in stream temperatures exceeding 86°F.

4. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges 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, 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.

5. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

6. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

7. The docket holder is permitted to treat and discharge wastewater 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 to the extent consistent with all other conditions of this DECISION Section.

- 8.** 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.
- 9.** If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.
- 10.** 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.
- 11.** 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.
- 12.** 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).
- 13.** 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.
- 14.** The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 CFR 401.43).
- 15.** 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*.
- 16.** The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.
- 17.** 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.

**18.** 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.

**BY THE COMMISSION**

**DATE APPROVED:**

**EXPIRATION DATE:      October 31, 2023**

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