

DOCKET NO. D-1983-009-3

DELAWARE RIVER BASIN COMMISSION

**Occidental Chemical Corporation
Industrial Wastewater Treatment Plant Modification
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 the Occidental Chemical Corporation (OxyChem or docket holder) on November 20, 2013 (Application) and supplemented by information submitted on April 20, 2015, for review of an industrial wastewater treatment plant (IWTP) modification. The State of Delaware Department of Natural Resources & Environmental Control (DNREC) issued National Pollutant Discharge Elimination System (NPDES) Permit No. DE0050911 for the project discharge on October 15, 2013.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The New Castle County Planning Board has been notified of pending action. A public hearing on this project was held by the DRBC on June 9, 2015.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to approve a modification to the docket holder's existing pump and treat groundwater remediation IWTP and its related discharge, which consists of replacing the existing outfall for the IWTP with a new outfall. The IWTP treatment system will not be modified, and is permitted by DNREC at a flow rate of 0.3 million gallons per day (mgd).

2. Location. The project IWTP is located adjacent to the Delaware River, just south of Red Lion Creek and north of Delaware City in New Castle County, Delaware. The WWTP will continue to discharge to the Delaware River in Water Quality Zone 5 at River Mile 62.7.

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

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	39° 36' 25"	75° 36' 48"

3. **Area Served.** The docket holder's existing IWTP will continue to treat contaminated groundwater and stormwater from the OxyChem chemical manufacturing plant site in New Castle County, Delaware. Manufacturing operations for the plant ceased in 2005. Currently, the IWTP solely treats groundwater contaminated with mercury and organic compounds from the former manufacturing operations and stormwater runoff from the site.

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. **Physical features.**

a. **Design criteria.** The existing 0.3 mgd IWTP will continue to utilize an activated carbon treatment system with filtration and pH adjustment to treat groundwater contaminated with mercury and organic compounds from the former plant manufacturing operations, as well as stormwater runoff from the site. The docket holder proposes to replace the existing damaged outfall for the IWTP. There is no modification to the IWTP treatment system proposed.

b. **Facilities.** The existing IWTP consists of two treatment trains which combine prior to discharge through Outfall 001. The first treatment train treats groundwater pumped from a groundwater collection trench onsite and from Waste Lake #1 Columbia Well. After individual filtration of the trench and well groundwater, this stream is pH adjusted and treated with activated carbon. The second treatment train treats stormwater runoff from the contaminated portion of the site with filtration, pH adjustment, and activated carbon. The two streams are combined and routed through the Outfall 001 monitoring point prior to being co-mingled with stormwater and discharged through Outfall 001. A barrier wall is located around the contaminated portion of the site to prevent emigration of contaminated groundwater and stormwater.

Outfall 001 as originally constructed was a 2,635-foot long outfall pipe attached to a dock that extended into the Delaware River, featuring a diffuser at the end of the outfall. Ice flows have torn away a portion of the dock and outfall pipe (including the diffuser), with approximately 1,000 feet of dock and outfall pipe remaining. Treated effluent currently discharges above the water surface from the end of the remaining portion of the outfall / dock, approximately 1,000 feet into the river.

The docket holder proposes a project to replace the existing damaged outfall pipe with a new outfall. The outfall will consist of a submerged pipe extending into the Delaware River. A diffuser at the end of the proposed pipe may or may not be incorporated into the final outfall design; however, the final design for the new outfall has not been completed. See FINDINGS section and Condition II.j. in the DECISION section.

Several of the project facilities are located in the 100-year floodplain. The Commission's *Flood Plain Regulations* (FPR) has requirements for treatment facilities in the flood plain; however, the FPR only apply in the non-tidal portion of the Delaware River Basin.

Since the project WWTP is located in the tidal portion of the basin, the FPR do not apply to the project WWTP.

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

c. **Water withdrawals.** The groundwater treated at the IWTP is from a groundwater well and a groundwater trench owned and operated by the docket holder. The well and trench are operated at withdrawal rate below the DRBC review threshold, and as such, do not require Commission approval.

d. **NPDES Permit / DRBC Docket.** NPDES Permit No. DE0050911, issued by the DNREC on October 15, 2013, includes effluent limitations for the project discharge to surface waters classified by the DNREC as Delaware River Zone 5. The following average monthly effluent limits listed in EFFLUENT TABLE A-1, based on a flow of 0.3 mgd, are among those listed in the NPDES permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC parameters included in NPDES permit

Internal Monitoring Point for Outfall 001 (Discharge to Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	30 mg/l	As required by NPDES permit
BOD (5-Day at 20° C)	9 mg/l (daily maximum) 15 lbs/day	As required by NPDES permit
Enterococcus	104 colonies per 100 ml	As required by NPDES permit
Total Chromium	0.15 mg/l	As required by NPDES permit
Total Copper	0.0048 mg/l	As required by NPDES permit
Total Lead	0.10 mg/l	As required by NPDES permit
Total Mercury	0.0026 mg/l	As required by NPDES permit
PCBs*	Monitor & Report	As required by NPDES permit
Whole Effluent Toxicity	Monitor & Report	As required by NPDES permit

* See Condition II.y. in the DECISION Section

The requirements in EFFLUENT TABLE A-2 are not listed in the NPDES Permit, but are Commission basin-wide parameters that must be met as a condition of this docket approval.

EFFLUENT TABLE A-2: DRBC parameters not included in NPDES permit

Internal Monitoring Point for Outfall 001 (Discharge to Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
CBOD (20-Day at 20° C)*	19 lbs/day	Monthly
CBOD (20-Day at 20° C) influent*	Monitor & Report	Monthly
Total Dissolved Solids**	Monitor & Report	Quarterly

* See FINDINGS Section and Condition II.v. in the DECISION Section

** See FINDINGS Section and Condition II.w. in the DECISION Section

- e. **Cost.** The overall cost of this project is estimated to be \$750,000.

FINDINGS

The docket holder submitted an Application to replace existing Outfall 001 at the OxyChew IWTP with a new outfall. No modifications to the IWTP treatment facilities are proposed, and the IWTP will remain at a design flow of 0.3 mgd.

Outfall Design / Construction Plan Approval

The docket holder has yet to complete plans and specifications for the construction of the new project outfall. This docket includes a condition providing that the Executive Director must approve the final plans and specifications for the proposed construction prior to initiation of construction of the WWTP modification (See Condition II.j. in the Decision section).

CBOD₂₀ Wasteload Allocation

The Commission's *Water Quality Regulations (WQR)* provide for the allocation of the stream assimilative capacity where waste discharges would otherwise result in exceeding such capacity. It was determined in the late 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 *WQR*, 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 Occidental IWTP is located in Zone 5 at river mile 62.7. Zone 5 is allocated at 67,600 lbs/day of CBOD₂₀ and has a minimum percent removal requirement of CBOD₂₀ of 87.5%. The Commission approved the most recent CBOD₂₀ allocation for the discharge of 19 lbs/day on January 6, 1988. This docket will continue the approval to discharge up to 19 lbs/day of CBOD₂₀ for the existing facility and will require influent monitoring for CBOD₂₀ (See EFFLUENT TABLES A-1 and A-2 in Section A.4.d. of this docket.).

BOD₅ / CBOD₂₀ Monitoring

The docket holder may request to establish a ratio between BOD₅ and CBOD₂₀ in order to reduce the required monitoring for CBOD₂₀ contained in the effluent tables in Section A.4.d. of this docket. The docket holder shall submit the request in writing to the Executive Director along with historical influent and effluent data for BOD₅ and CBOD₂₀ used to establish the ratio. Upon review, the Executive Director may modify the docket to require only BOD₅ monitoring or reduce the CBOD₂₀ monitoring frequency required within this docket (See Condition II.v. in the DECISION Section).

Total Dissolved Solids

Water Quality Zone 5 stream quality objectives do not explicitly include Total Dissolved Solids (TDS). As a consequence, the 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 docket holder is required to monitor quarterly for TDS. See Condition II.w. in the DECISION section.

There are no public water supply intakes downstream of the project discharge.

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 *WQR* of the DRBC.

C. DECISION

I. Effective on the approval date for Docket No. D-1983-009-3 below, Docket No. D-1983-009-2 is terminated and replaced by Docket No. D-1983-009-3.

II. The project and appurtenant facilities as described in the Section A “Physical features” of this docket entitled “Physical features” above 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 construction permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. Commission approval of this docket is contingent on the DNREC’s approval of the construction permit.

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 electronically to the DRBC Project Review Section via email 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/application/index.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. 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*.

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. 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.

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 temperatures of the receiving waters by more than 4°F (2.2°C) from September to May and 1.5°F (0.8°C) from June to August, nor shall such discharge result in stream temperatures exceeding 86°F (30°C).

i. Sound practices of excavation, backfill and reseeded shall be followed to minimize erosion and deposition of sediment in streams.

j. The docket holder shall submit final construction plans and specifications for the new project outfall and have the plans approved by the Executive Director prior to the initiation of construction of the proposed outfall. The docket holder shall construct the new outfall in accordance with the plans approved by the Executive Director.

k. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date.

l. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement ("Statement") signed by the docket holder's professional engineer for the project. The Statement must (1) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; (2) report the project's final construction cost as such cost is defined by the project review fee schedule in effect at the time the application was made; and (3) indicate the date on which the project was (or is to be) placed in operation. In the event that the final project

cost exceeds the estimated cost used by the docket holder to calculate the DRBC project review fee, the statement must also include (4) the amount of any outstanding balance owed for DRBC review. The outstanding balance will equal the difference between the fee paid to the Commission and the fee calculated on the basis of the project's final cost, using the formula and definition of "project cost" set forth in the DRBC's project review fee schedule in effect at the time application was made.

m. The proposed outfall shall be completed within three years of approval of this docket or the docket holder shall demonstrate to the Executive Director that it has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval. If the modifications have not been completed within three years of Docket Approval and the docket holder does not submit a cost analysis demonstrating substantial funds have been expended, Commission approval of the modification to the IWTP facilities shall expire. If this approval expires under this condition, the docket holder shall file a new application with the Commission and receive Commission approval prior to initiating construction of any modifications.

n. 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 to the extent consistent with all other conditions of this DECISION Section.

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

p. 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).

q. 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.

r. 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.

s. 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 12 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.

t. 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.

u. 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.

v. The docket holder may request of the Executive Director in writing to establish a ratio between BOD₅ and CBOD₂₀ in order to reduce the required monitoring contained within this docket approval. Upon review, the Executive Director may modify the docket to reduce or eliminate the CBOD₂₀ monitoring requirements contained in the effluent tables in Section A.4.d. of this docket.

w. The docket holder will monitor and report TDS effluent on a quarterly basis in accordance with EFFLUENT TABLE A-2 in the DESCRIPTION section of this docket and report the results to the Executive Director on an annual basis in accordance with Condition II.d. above. After completing four (4) quarters of TDS monitoring, the docket holder may request in writing to the Executive Director a reduction in the TDS monitoring requirements. 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.

x. 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.

y. The docket holder shall continue to submit PCB monitoring data and PMP Annual Reports to the Commission's Modeling, Monitoring and Assessment Branch as required in the NPDES Permit.

BY THE COMMISSION

DATE APPROVED: June 10, 2015

EXPIRATION DATE: June 10, 2020