

DOCKET NO. D-1978-068-4

DELAWARE RIVER BASIN COMMISSION

**U.S. Steel Real Estate
Wastewater and 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) by U.S. Steel Real Estate (US Steel or docket holder) on April 22, 2015 (Application), for renewal of the docket holder's existing wastewater treatment plant (WWTP), industrial wastewater treatment plant (IWTP), non-contact cooling water (NCCW) system, and their combined discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0013463 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on November 20, 2014, effective December 1, 2014.

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 10, 2016.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew approval of the docket holder's existing 1.0 million gallons per day (mgd) WWTP (Outfall No. 203), 65 mgd IWTP (Outfall No. 103), NCCW system (Outfall No. 103), and their combined discharge to Water Quality Zone 2 of the Delaware River through Outfall No. 003. The PADEP and DRBC have based effluent limits on discharge flow rates of 3.75 mgd and 0.163 mgd for Outfall Nos. 103 and 203, respectively. Monitoring for Outfall No. 003 is performed at Outfall No. 103. This docket also approves the continuation of a total dissolved solids (TDS) Determination that allows TDS effluent concentrations of up to 1,100 mg/l (monthly average), 2,200 mg/l (Daily Maximum), and 2,750 mg/l (Instantaneous Maximum) to be discharged via combined Outfall No. 003. Internal Outfalls Nos. 103, 203, and 303 (stormwater only) will continue to discharge to the Delaware River via combined Outfall No. 003.

2. Location. The WWTP and IWTP will continue to discharge treated effluent to Water Quality Zone 2 of the Delaware River at River Mile 127.0, in Falls Township, Bucks County, Pennsylvania as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
203 (WWTP)	40° 08' 16"	74° 44' 28"
103 (IWTP & NCCW)	40° 08' 51"	74° 44' 28"

003 (Combined)	40° 08' 51"	74° 44' 28"
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3. Area Served. The docket holder's WWTP and IWTP will continue to serve the businesses located on the US Steel site in Falls Township, Bucks County, Pennsylvania. These businesses include, but are not limited to US Steel Galvanizing, Exelon Generation Co. – Fairless Hills (Exelon), Fairless Hills Generation – Dominion (Dominion), Chicago Steel, A. E. Polysilicon (AEP), and an on-site potable filtration facility. 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 docket holder will continue to operate its existing 1.0 mgd WWTP and 65 mgd IWTP. The PADEP and DRBC have based effluent limits on a discharge flow rate of 3.75 mgd and 0.163 mgd for Outfalls No. 103 and 203, respectively.

b. Facilities. The docket holder's WWTP consists of three (3) booster pumps, a main pump station, a primary clarifier (and digester), two (2) trickling filters working in parallel, a secondary clarifier, and a contact chamber (for chlorine disinfect).

The docket holder's IWTP consists of two (2) pump stations, an aeration basin, an API separator, a polishing lagoon, and a water storage lagoon. Wastewater may be treated with Polymer SPC 875D up to 2 times prior to discharge for the purpose of flocculation (this rarely occurs). Anti-foam BPW 76910 is applied as needed as a polishing agent before treated wastewater is discharged 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 withdrawals. The potable water supply in the project service area is supplied by the docket holder's system and was approved by the Commission on December 8, 2010 via Docket No. D-2009-06-1.

d. NPDES Permit / DRBC Docket. NPDES Permit No. PA0013463 was issued by the PADEP on November 20, 2014 (effective December 1, 2014) and includes final effluent limitations for the project discharge of 0.163 of treated wastewater from Outfall No. 203 and 3.75 mgd of treated industrial wastewater and NCCW from Outfall No. 103 to surface waters classified by the PADEP as warm water, migratory fisheries (WWF/MF). The following average monthly effluent limits and monitoring requirements in EFFLUENT TABLE A-1 are among those listed in the NPDES Permit for Outfall No. 203 and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES Permit

OUTFALL 203 (WWTP)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit
BOD ₅ (at 20° C)	25 mg/l, 88.5% Removal	As required by NPDES Permit
Fecal Coliform	200 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
CBOD ₂₀	67 lbs/day	As required by NPDES Permit
Ammonia Nitrogen	35 mg/l	As required by NPDES Permit
TDS*	Monitor & Report	As required by NPDES Permit
PCBs	Monitor & Report	As required by NPDES Permit

The requirements in EFFLUENT TABLE A-2 are listed in the NPDES Permit for Outfall No. 103 and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-2: DRBC Parameters Included in NPDES Permit

OUTFALL 103 (IWTP & NCCW Discharge)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit
BOD ₅ (at 20° C)	25 mg/l, 88.5% Removal	As required by NPDES Permit
CBOD ₂₀	750 lbs/day	As required by NPDES Permit
Ammonia Nitrogen	35 mg/l	As required by NPDES Permit
Temperature	110 ° F (Max)	As required by NPDES Permit
Total Dissolved Solids*, **	1,100 mg/l (Monthly Average), 2,200 mg/l (Daily Maximum), 2,750 mg/l (Instantaneous Maximum)	As required by NPDES Permit
Toxicity (Acute & Chronic)	Monitor & Report	As required by NPDES Permit
PCBs	Monitor & Report	As required by NPDES Permit

* See DECISION Condition II.q.

** The DRBC TDS Determination is at Outfall No. 003. See discussion of TDS Determination in the Findings section.

- e. **Cost.** There are no construction costs associated with this renewal.

B. FINDINGS

The purpose of this docket is to renew approval of the docket holder's existing 1.0 mgd WWTP (Outfall No. 203), 65 mgd IWTP (Outfall No. 103), NCCW system (Outfall No. 103), and their combined discharge to Water Quality Zone 2 of the Delaware River at Outfall No. 003. The PADEP and DRBC have based effluent limits on discharge flow rates of 3.75 mgd and 0.163 mgd for Outfall Nos. 103 and 203, respectively. Monitoring for Outfall No. 003 is performed separately at Outfall No. 203 and Outfall No. 103.

Total Dissolved Solids (TDS)

The Commission's basin-wide TDS effluent limit is 1,000 mg/l [Section 3.10.4D.2. of the Commission's *Water Quality Regulations (WQR)*]. The Commission's basin-wide in-stream TDS criteria is that 1) the receiving stream's resultant TDS concentration be less than 133% of the background (Section 3.10.3B.1.b. of the Commission's *WQR*), and 2) the receiving stream's resultant TDS concentration be less than 500 mg/l (Section 3.10.3B.2. of the Commission's *WQR*).

The 133% of the background TDS requirement is for the protection of aquatic life. The 500 mg/l TDS requirement is to protect the use of the receiving stream as a drinking water source. The EPA's Safe Drinking Water Act's secondary standard for TDS is 500 mg/l.

The background TDS concentration for Water Quality Zone 2 of the Delaware Estuary is 200 mg/l as defined in the Commission's *WQR*.

Docket No. D-1978-68-2 approved an instantaneous maximum TDS concentration of 2,750 mg/l for Outfall No. 003 on March 11, 2009. The resultant in-stream TDS concentration for the 3.913 mgd combined discharge from Outfalls Nos. 103 and 203 is 205.85 mg/l (~3% increase). The increase in TDS is well below the allowable 33% and the in-stream concentration of 205.85 mg/l is well below the 500 mg/l drinking water standard. Accordingly, this docket continues approval of the requested TDS effluent limitations at Outfall No. 003 as found in EFFLUENT TABLE A-3 above. The docket holder currently separately monitors the effluent TDS at Outfalls Nos. 203 and 103 since Outfall No. 003 is influenced by tidal conditions. For compliance purposes the project sponsor is required to compute the effluent concentrations and loading TDS values in Outfall No. 003 using the combined TDS loadings from Outfalls Nos. 203 and 103.

CBOD₂₀ Wasteload Allocation

The Commission's *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 US Steel WWTP and IWTP are located in Zone 2 at river mile 127.0. Zone 2 is currently over allocated.

CBOD₂₀ Allocation History – Outfall No. 103

A letter from the Executive Director on December 11, 1969 approved an allocation of 2,500 lbs/day of CBOD₂₀ for Outfall No. 103.

Dockets Nos. D-78-66 and D-78-68 did not list an allocation for Outfall No. 103.

Dockets Nos. D-1978-68-2 and D-1978-068-3 approved an allocation of 750 lbs/day of CBOD₂₀ for Outfall No. 103.

CBOD₂₀ Allocation History – Outfall No. 203

A letter from the Executive Director on December 9, 1985 approved an allocation of 20 lbs/day of CBOD₂₀ for Outfall No. 203.

Docket Nos. D-85-79 approved an allocation of 20 lbs/day of CBOD₂₀ on April 29, 1986 for Outfall No. 203.

A letter from the Executive Director on April 7, 1988 approved an allocation of 67 lbs/day of CBOD₂₀ for Outfall No. 203.

Dockets Nos. D-1978-68-2 and D-1978-068-3 approved an allocation of 67 lbs/day of CBOD₂₀ for Outfall No. 203.

CBOD₂₀ Determination

Docket No. D-1978-68-2 reduced the docket holder's CBOD₂₀ wasteload allocation from 2,500 lbs/day to 750 lbs/day of CBOD₂₀ for Outfall No. 103 and the 67 lbs/day of CBOD₂₀ limit for Outfall No. 203 remained the same. It was determined that since the docket holder did not discharge near its permitted allocation for at least 4 years that a decrease was warranted. The allocation was kept at more than double the current discharge to allow for the increase of AEP and future customers.

CBOD₂₀ loads continue to be reported at half the current allocation. At this time Commission staff recommend that the CBOD₂₀ loadings of 750 lbs/day and 67 lbs/day for Outfalls Nos. 103 and 203, respectively, be continued thru the end of this docket cycle. CBOD₂₀ loads will be re-evaluated during the next renewal cycle should discharge data continue to show results well below the CBOD₂₀ effluent limits in this approval.

PCBs

The docket holder is required to monitor for 209 PCB congeners using Method 1668A once per year during dry weather at Outfall No. 103 and implement Pollution Minimization Plans (PMPs) for PCBs as required in the NPDES Permit (See DECISION Condition II.s.).

Other

At Outfall No. 003 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 calculated low flow of 2,634 cfs (1.702 billion gallons per day) for the Delaware River at the discharge location (River Mile 127.0).

There are no surface water intakes of record for public water supply within a five (5) mile tidal influence of Outfall No. 003.

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-1978-068-4 below, Docket No. D-1978-068-3 is terminated and replaced by Docket No. D-1978-068-4.

II. The project and appurtenant facilities as described in 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 PADEP 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 electronically to the DRBC Project Review Section via email aemr@drbc.nj.gov 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.

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 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.

i. 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.

j. 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.

k. 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).

l. 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.

m. 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.

n. 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.

o. 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.

p. 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.

q. 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.

r. 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.

s. 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 existing NPDES Permit.

BY THE COMMISSION

DATE APPROVED: March 16, 2016

EXPIRATION DATE: November 30, 2019