

DOCKET NO. D-1972-210 CP-2

DELAWARE RIVER BASIN COMMISSION

**New Castle County Department of Public Works
Delaware City (Governor Bacon Health Center) Wastewater Treatment Plant Upgrade
Delaware City, 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 New Castle County Department of Public Works (docket holder) on April 11, 2011 (Application), which was supplemented by information submitted on April 17, 2015, for review of a wastewater treatment plant (WWTP) upgrade. The State of Delaware Department of Natural Resources & Environmental Control (DNREC) issued National Pollutant Discharge Elimination System (NPDES) Permit No. DE0021555 for the project discharge on December 2, 2008.

The Application was reviewed for addition of the project in the Comprehensive Plan and 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 an upgrade of the docket holder's existing 0.57 million gallons per day (mgd) Delaware City WWTP (also referred to as the Governor Bacon Health Center WWTP) and its related discharge. The upgrade consists of replacing existing sand filters with cloth media filters and replacing the existing chlorine contact disinfection system with ultraviolet light (UV) disinfection. The WWTP will remain at a hydraulic design flow of 0.57 mgd.

2. Location. The project WWTP is located adjacent to the Delaware River, just northeast of the Governor Bacon Health Center, in Delaware City, New Castle County, Delaware. The WWTP will continue to discharge to the Delaware River in Water Quality Zone 5 at River Mile 60.6.

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

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	39° 34' 37"	75° 35' 6"

3. Area Served. The docket holder's existing WWTP will continue to receive wastewater flows from Delaware City, New Castle County, including the Governor Bacon Health Center, and a portion of unincorporated area in New Castle County. The proposed upgraded WWTP will receive flows from the existing WWTP's service area, as well as an additional portion of unincorporated area in New Castle County.

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 0.57 mgd WWTP will continue to utilize an activated sludge treatment system with filtration and disinfection. There is no increase in the hydraulic capacity of the WWTP proposed.

b. Facilities. The existing WWTP facilities consist of a static screen, a 150,000 gallon equalization tank, a flow splitter, two (2) 285,000 gpd parallel, activated sludge treatment trains (each consisting of an aeration tank, a clarifier, and a sand filter), followed by shared chlorine contact disinfection. Sludge handling facilities include two (2) sludge storage tanks (one for each treatment train) and sludge drying beds.

The proposed upgrade consists of replacing the sand filters with cloth media filters, replacing the chlorine contact disinfection with UV disinfection, and appurtenant improvements, including replacing existing blowers.

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 potable water supply in the project service area is provided by two (2) groundwater wells owned and operated by Delaware City. The groundwater withdrawal is described in detail in DRBC Docket No. D-1998-046 CP-1, which was approved on January 27, 1999.

d. **NPDES Permit / DRBC Docket.** NPDES Permit No. DE0021555, issued by the DNREC on December 2, 2008, 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 0.57 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

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	15 mg/l	As required by NPDES permit
BOD (5-Day at 20° C)	12 mg/l; 55 lbs/day 87.5% minimum removal	As required by NPDES permit
Enterococcus	35 colonies per 100 ml	As required by NPDES permit
PCBs*	Monitor & Report	As required by NPDES permit

* See Condition II.x. 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

Outfall 001 (Discharge to Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
Ammonia Nitrogen	35 mg/l	Monthly
CBOD (20-Day at 20° C)*	68 lbs/day 87.5 % minimum removal	Monthly
CBOD (20-Day at 20° C) Influent	Monitor & Report	Monthly

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

e. **Cost.** The overall cost of this project is estimated to be \$685,000.

f. **Relationship to the Comprehensive Plan.** The Delaware City WWTP was included in the DRBC Comprehensive Plan by Docket No. D-1972-210 CP-1 on June 17, 1975.

FINDINGS

This docket approves an upgrade to the Delaware City WWTP, which consists of replacing existing sand filters with cloth media filters and replacing the existing chlorine contact disinfection system with UV disinfection. The WWTP will remain at 0.57 mgd.

Construction Plan Approval

The docket holder has yet to submit final plans and specifications for the construction of the WWTP upgrade. This docket includes a condition providing that the Executive Director must approve the final plans and specifications for the WWTP upgrade prior to initiation of the construction (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 Delaware City WWTP is located in Zone 5 at river mile 60.6. 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 Delaware City WWTP of 68 lbs/day on July 12, 1979. This docket will continue the approval to discharge up to 68 lbs/day of CBOD₂₀ for the existing facility.

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.

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-1972-210 CP-2 below:

a. The project described in Docket No. D-1972-210 CP-1 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-1972-210 CP-2; and

b. Docket No. D-1972-210 CP-1 is terminated and replaced by Docket No. D-1972-210 CP-2.

c. The project and the appurtenant facilities described in the Section A “Physical Features” of this docket shall be added to the Comprehensive Plan.

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.

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 shall submit final construction plans and specifications for the project upgrade and have the plans approved by the Executive Director prior to the initiation of construction of the WWTP upgrades. The docket holder shall construct the WWTP upgrades 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 WWTP modifications 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 modifications to the existing WWTP 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 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.

x. 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