

DOCKET NO. D-2005-029 CP-3

DELAWARE RIVER BASIN COMMISSION

**Penns Grove Sewerage Authority
Wastewater Treatment Plant
Penns Grove Borough, Salem County, New Jersey**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Penns Grove Sewerage Authority (PGSA or docket holder) on July 14, 2014 (Application), for renewal of the docket holder's existing wastewater treatment plant (WWTP) and its discharge. New Jersey Pollutant Discharge Elimination System (NJPDES) Permit No. NJ0024023 for this facility was issued by the New Jersey Department of Environmental Protection (NJDEP) on June 23, 2010, effective October 1, 2010. Renewal of the NJPDES Permit is expected in 2016.

The Application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Salem County Planning Board has been notified of pending action. A public hearing on this project was held by the DRBC on September 15, 2015.

A. DESCRIPTION

- 1. Purpose.** The purpose of this docket is to renew approval of the docket holder's existing 0.75 million gallons per day (mgd) WWTP and its discharge.
- 2. Location.** The WWTP will continue to discharge treated effluent to Water Quality Zone 5 of the tidal Delaware River at River Mile 72.0 via Outfall No. DSN001A, in Penns Grove Borough, Salem County, New Jersey as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
DSN001A	39° 43' 43.2"	75° 28' 28.8"

- 3. Area Served.** The docket holder's WWTP will continue to serve Penns Grove Borough, Salem County, New Jersey. 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 0.75 mgd WWTP.

b. **Facilities.** The WWTP consists of an aerated grit chamber, two (2) influent grinder pumps, three (3) pump stations, two (2) primary settling tanks, two (2) aeration tanks, four (4) final settling tanks/clarifiers (two of which are for emergency use only), two (2) chlorine contact tanks, a dechlorination unit, three (3) sludge holding tanks, two (2) aerobic digesters, a gravity belt sludge thickener, and covered sludge drying beds.

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 the New Jersey American Water Company (NJAWC), whose groundwater withdrawal was approved by the Commission on September 26, 2007 via Docket No. D-93-77 CP-3.

d. **NJPDES Permit / DRBC Docket.** NJPDES Permit No. NJ0024023 issued by the NJDEP on June 23, 2010 (effective October 1, 2010) and includes final effluent limitations for the project discharge of 0.75 mgd to surface waters classified by the NJDEP as Mainstem Delaware-Zone 5. The following average monthly effluent limits are among those listed in the NJPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

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

OUTFALL DSN001A (WWTP)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NJPDES Permit
Total Suspended Solids	30 mg/l	As required by NJPDES Permit
BOD ₅ (at 20° C)	30 mg/l, 167 lbs/day, 87.5% Minimum Removal	As required by NJPDES Permit
Ammonia Nitrogen	35 mg/l	As required by NJPDES Permit
Fecal Coliform	200 colonies per 100 ml as a geo. avg.	As required by NJPDES Permit
Chronic Toxicity (Cladoceran)	17% EFFL	As required by NJPDES Permit

The requirements in EFFLUENT TABLE A-2 are not listed in the NJPDES Permit, were required in Docket No. D-2005-029 CP-2, and are Commission basin-wide and/or estuary specific parameters that must continue to be met/monitored as a condition of this docket approval (See DECISION Condition II.d.). Commission staff have requested NJDEP include these parameters in their next Permit.

EFFLUENT TABLE A-2: DRBC Parameters Not Included in NJPDES Permit

OUTFALL DSN001A (WWTP)		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids*	1,000 mg/l	Quarterly
Acute Toxicity (Cladoceran & Fathead Minnow)	Monitor & Report	1/Year

* See DECISION Condition II.p.

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

f. **Relationship to the Comprehensive Plan.** The docket holder's WWTP was included in the Comprehensive Plan as part of Addendum No. 1, adopted on July 25, 1962. The expansion of the WWTP to 0.75 mgd and its continuation in the Comprehensive Plan was approved by Docket No. D-2005-29 CP-1 on March 1, 2006. Issuance of this docket will continue approval of the docket holder's WWTP in the Comprehensive Plan (See DECISION Condition I.c.).

B. FINDINGS

The purpose of this docket is to renew approval of the docket holder's existing 0.75 mgd WWTP and its discharge.

Toxicity

Zone 2 stream quality objectives exist for toxic pollutants. They include criteria to protect the taste and odor of ingested water and fish (See Table 4 of Commission's *WQR*), to protect aquatic life (Table 5), and to protect human health (Tables 6 & 7). 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 2 is 0.3 Toxic Units (TU_a = 0.3). The chronic toxicity stream quality objective for Zone 2 is 1.0 Toxic Units (TU_c = 1.0).

Chronic Toxicity

Chronic Toxicity testing has been required by the NJDEP since the 1980s. The docket holder shall continue to monitor Chronic Toxicity and submit results to the Commission in addition to the NJDEP in accordance with the existing NJPDES Permit.

Acute Toxicity

To determine the need for an acute toxicity wasteload allocation, effluent limit and mixing zone, the DRBC requires acute toxicity monitoring for discharges into the estuary. The acute toxicity stream quality objective for Zone 5 is 0.3 Toxic Units (TU_a = 0.3). The docket holder was required in Docket No. D-2005-029 CP-2 to monitor for fathead minnow (*Pimephales promelas*) and cladoceran (*Ceriodaphnia dubia*). However, this monitoring was

never performed. The Commission's Compliance Section is addressing these non-monitoring violations. The docket holder is required to monitor for each of these species once per year throughout this docket cycle.

In the event that the acute toxicity monitoring results demonstrate the potential to exceed the Commission's Stream Quality Objective for acute toxicity ($TU_a = 0.3$), the Executive Director may require additional toxicity studies by the docket holder and may approve an acute toxicity mixing zone for the effluent.

Acute toxicity testing shall follow EPA Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA-821-R-02-012) or equivalent New Jersey guidance unless specific requirements are included in the docket or permit. A serial dilution test is required generally consisting of control, 6.25, 12.5, 25, 50 and 100% effluent. Alternate dilutions series may be used (e.g., If a wasteload allocation (WLA) in TU_a has been determined for the discharge, a dilution of $100/WLA$ can be the midpoint of a five effluent concentration as described for in-stream waste concentration (IWC) values in EPA methods).

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 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 combined PGSA outfall is located in Water Quality Zone 5 at river mile 72.0. Zone 5 has a reserve capacity of approximately 24%.

CBOD₂₀ Allocation History

Docket No. D-2005-29 CP-1 approved an allocation of 240 lbs/day of CBOD₂₀ on March 1, 2006. Docket No. D-2005-029 CP-2 continued this approval.

CBOD₂₀ Determination

Recent DMR data submitted by the docket holder continues to support the allocation of 240 lbs/day CBOD₂₀ for the existing 0.75 mgd WWTP. The ratio between BOD₅ and CBOD₂₀ of 1.28 was established in Docket No. D-2005-29 CP-1 and continues to be accurate. The docket holder is therefore required to measure BOD₅ in lbs/day during their normal NJPDES required sampling period to ensure that the WWTP effluent does not contain more than 167 lbs/day of BOD₅ (the CBOD₂₀ equivalent).

Other

At Outfall No. DSN001A, 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 4,110 cfs (2.66 billion gallons per day) for the Delaware River at the discharge location (River Mile 72.0).

The ratio of this low flow to the hydraulic design wastewater discharge from Outfall No. DSN001A is 3,547 to 1. (<0.01 % of low flow)

There are no surface water intakes of record for public water supply within a five (5) mile tidal influence of the Outfall No. DSN001A.

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 NJPDES 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-2005-029 CP-3 below:

a. The project described in Docket No. D-2005-029 CP-2 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2005-029 CP-3; and

b. Docket No. D-2005-029 CP-2 is terminated and replaced by Docket No. D-2005-029 CP-3; and

c. The project and the appurtenant facilities described in Section A "Physical Features" of this docket shall be continued in the Comprehensive Plan.

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 NJDEP in its NJPDES 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.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 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.

i. 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.

j. 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).

k. 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.

l. 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.

m. 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.

n. 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.

o. 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.

p. 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.

q. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder or ongoing activity not authorized by this approval. In particular, renewal of this docket does not resolve violations – whether in the past or continuing – of provisions of the Delaware River Basin Compact ("Compact") or any rule, regulation, order or approval duly issued by the Commission or the Executive Director pursuant to the Compact. The Commission reserves its right to take appropriate enforcement action against the docket holder, including but not limited to recovery of financial penalties consistent with Section 14.17 of the Compact, for any and all such prior or continuing violations.

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.

BY THE COMMISSION

DATE APPROVED: September 16, 2015

EXPIRATION DATE: August 31, 2020