

DOCKET NO. D-1987-037 CP-3

DELAWARE RIVER BASIN COMMISSION

**City of Salem
Wastewater Treatment Plant
City of Salem, 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 the City of Salem on November 1, 2012 (Application), for renewal of the docket holder's existing wastewater treatment plant (WWTP) and its related discharge. New Jersey Pollutant Discharge Elimination System (NJPDES) Permit No. NJ0024856 for this facility was issued by the New Jersey Department of Environmental Protection (NJDEP) on February 23, 2011.

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 9, 2014.

A. DESCRIPTION

- 1. Purpose.** The purpose of this docket is to renew approval of the docket holder's existing 1.4 million gallons per day (mgd) WWTP. There are no modifications to the WWTP proposed.
- 2. Location.** The WWTP will continue to discharge to the tidal portion of the Salem River at River Mile 58.4 – 1.0 (Delaware River – Salem River) in Delaware River Water Quality Zone 5. The WWTP is located in the City of Salem, Salem County, New Jersey as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001A	39° 34' 28"	75° 28' 49"

- 3. Area Served.** The docket holder's WWTP will continue to receive wastewater flows from the City of Salem and portions of Mannington, Elsinboro, Alloway, and Quinton Townships in Salem County, New Jersey. The docket holder was previously granted conditional approval by the DRBC to temporarily receive landfill leachate from the Salem County Improvement Authority

(SCIA) Landfill, located in Alloway Township, Salem County, New Jersey, via letter dated May 30, 2012 from the DRBC Executive Director. The Pilot Leachate Acceptance Program has since been discontinued by the docket holder, and therefore the approval to accept leachate is withdrawn (See FINDINGS section and DECISION Condition II.i.)

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's existing 1.4 mgd WWTP will continue to utilize an oxidation ditch treatment system. No modifications to the existing WWTP treatment facilities are proposed.

b. **Facilities.** The Salem WWTP treatment facilities consist of an auto/manual bar screen, aerated grit chamber, two (2) primary settling tanks (currently out of service), an oxidation ditch, two (2) secondary clarifiers, disinfection via sodium hypochlorite addition, and dechlorination via sodium bisulfite addition. Sludge handling facilities include a biosolids anaerobic digester (currently out of service), four (4) aerobic digesters/holding tanks, and a rotary drum thickener.

Prior facilities and processes for the WWTP have been described in DRBC Docket No. D-1987-037 CP-1, approved by DRBC on September 22, 1987.

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 from two (2) surface water intakes (Elkinton Pond and Laurel Lake) and groundwater wells owned and operated by the City of Salem. The surface and ground water withdrawals are described in detail in DRBC Docket No. D-2002-046 CP-1, which was approved on July 20, 2005.

d. **NJPDES Permit / DRBC Docket.** NJPDES Permit No. NJ0024856, issued by the NJDEP on February 23, 2011, includes effluent limitations for the existing project discharge of 1.4 mgd to surface waters classified by the NJDEP as Delaware River Water Quality 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

001A (Delaware Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NJPDES permit
Total Suspended Solids	30 mg/l (85% minimum removal)	As required by NJPDES permit
BOD (5-Day at 20° C)*	30 mg/l (87.5% minimum removal) 126 kg/day	As required by NJPDES permit
Ammonia Nitrogen (5/1 – 10/31) 11/1-4/30)	9.0 mg/l 35 mg/l	As required by NJPDES permit
Fecal Coliform	200 colonies per 100 ml	As required by NJPDES permit
PCBs	Monitor & Report	As required by NJPDES Permit
Acute WET LC50 Stat 96 hr (Mysid Bahia)	Monitor & Report	As required by NJPDES permit
Chronic WET IC25 Stat 7 day (Mysid Bahia)	Monitor & Report	As required by NJPDES permit

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

001A (Delaware Water Quality Zone 5)		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids*	Monitor & Report	Quarterly
CBOD (20-Day at 20° C)**	Monitor & Report	**

* See DECISION Condition II.q.

** See “CBOD₂₀ Monitoring” in FINDINGS section

d. Relationship to the Comprehensive Plan. The Salem WWTP was originally added to the Comprehensive Plan by DRBC Resolution No. 62-14 on July 25, 1962. DRBC Docket No. D-1987-037 CP-1 approved an upgrade to the Salem WWTP on September 22, 1987.

B. FINDINGS

The purpose of this docket is to renew the approval of the docket holder’s existing 1.4 mgd WWTP and its discharge and to update the approval to reflect the current facility description. No modifications to the WWTP are proposed.

The DRBC previously approved a temporary service area expansion of the WWTP via letter dated May 30, 2012 from the DRBC Executive Director. The service area expansion, referred to as the Pilot Leachate Acceptance Program, consisted of the WWTP temporarily accepting trucked-in, non-hazardous leachate from the SCIA Landfill. The program has since been discontinued by the docket holder. Therefore, the approval to accept leachate is withdrawn. Prior to accepting SCIA landfill leachate or any wastewater from outside the approved service area of the WWTP, the docket holder is required to submit an application, and have approved by the Commission, a service area modification for the WWTP (See DECISION Condition II.i.).

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 WWTP is located in Zone 5 at River Mile 58.4 – 1.0 (Delaware River – Salem River). Zone 5 is allocated at 51,322 lbs/day of CBOD₂₀ and has a minimum percent removal requirement of CBOD₂₀ of 87.50%. The Commission approved a CBOD₂₀ allocation for the WWTP of 395 lbs/day in June, 1968. This docket continues the approval to discharge up to 395 lbs/day of CBOD₂₀ for the existing facility.

CBOD₂₀ Monitoring

The docket holder is currently performing BOD₅, CBOD₅, and CBOD₂₀ monitoring as part of an Estuary-wide two-year nutrient monitoring program implemented by the Commission. NJPDES Permit No. NJ0024856 requires the docket holder to meet a BOD₅ effluent load limit of 126 kg/day (or 277 lbs/day). The BOD₅ effluent load limit was determined by calculating the BOD₅ effluent load by the CBOD₂₀/BOD₅ ratio of 1.42:1. The docket holder will continue to submit the results of the monitoring currently being performed as part of the nutrient monitoring program to the DRBC. Based on this information, the Executive Director may establish a revised CBOD₂₀/BOD₅ ratio. The revised ratio will be used by the DRBC to make recommendations to NJDEP during the renewal process of the docket holder's NJPDES permit.

PCBs

The docket holder is required to monitor for 209 PCB congeners using Method 1668A one (1) time per year during dry weather at Outfall No. 001A and implement Pollution Minimization Plans (PMPs) for PCBs as required in the NJPDES Permit (See DECISION Condition II.t.).

Total Dissolved Solids

Zone 5 stream quality objectives do not explicitly include Total Dissolved Solids (TDS). As a consequence, the Commission finds that basin-wide 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 basin-wide TDS requirements in Zone 5 when and where it determines that the requirements are necessary to protect water uses in Zone 5. EFFLUENT TABLE A-2 in Section A.4.d of this docket includes quarterly effluent monitoring and reporting of TDS.

The Salem River is tidal at the WWTP discharge location. There are no surface water intakes of record for public water supply downstream or tidally upstream 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 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-1987-037 CP-3 below:

a. The project described in Docket No. D-1987-037 CP-1 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D- 1987-037 CP-3; and

b. Docket No. D-1987-037 CP-1 is terminated and replaced by Docket No. D-1987-037 CP-3.

c. The project and the appurtenant facilities described in the 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 *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 by more than 1.5°F (0.8°C) from June to August, nor shall such discharge result in stream temperatures exceeding 86°F.

i. The docket holder is permitted to treat and discharge the categories of wastewaters defined in the “Area Served” section of this docket. Prior to accepting wastewater from outside the approved service area of the WWTP, the docket holder is required to submit an application, and have approved by the Commission, a service area modification for the WWTP.

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 PCB monitoring data and PMP Annual Reports to the Commission's Modeling, Monitoring and Assessment Branch as required in the existing NJPDES Permit.

BY THE COMMISSION

DATE APPROVED: September 10, 2014

EXPIRATION DATE: December 31, 2020