

DOCKET NO. D-86-9 CP-2

DELAWARE RIVER BASIN COMMISSION

Discharge to a Tributary of Special Protection Waters

**Honesdale Borough
Wastewater Treatment Plant Expansion
Honesdale Borough, Wayne County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) by Entech Engineering Inc. on behalf of Honesdale Borough on July 12, 2007 (Application), for review of a Wastewater Treatment Plant Reconstruction and Expansion. The project was approved by the Pennsylvania Department of Environmental Protection (PADEP) on January 28, 2008, but it is withholding its Water Quality Management Permit No. 6407403 until the project is approved by the Commission. PADEP's National Pollutant Discharge Elimination System (NPDES) Permit No. PA0023469 became effective on April 1, 2007.

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 Wayne County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on July 16, 2008.

A. DESCRIPTION

- Purpose.** The purpose of this project is to reconstruct and expand the Honesdale Borough WWTP from 1.18 million gallons per day (mgd) to 2.2 mgd.
- Location.** The project WWTP is to be located adjacent to the existing WWTP on Honesdale Borough property currently utilized for fire school training. The WWTP is located along the Lackawaxen River at River Mile 277.7 – 24.6 (Delaware River – Lackawaxen River). The WWTP is located in the drainage area to the Upper Delaware Special Protection Water Area. The Upper Delaware Scenic and Recreational River has been classified as Outstanding Basin Waters.

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

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	41° 33' 16"	75° 14' 47"

3. Area Served. The docket holder's WWTP will receive wastewater flows from Honesdale Borough and a portion of Texas Township, PA.

For the purpose of defining the Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

4. Physical features.

a. Design criteria. The docket holder's existing WWTP consisted primarily of two trickling filters. The trickling filter process will be replaced with a Sequential Batch Reactor (SBR) process.

b. Facilities. The main interceptor into the docket holder's WWTP will be replaced with a new 36" PVC interceptor. A new in-line Parshall flume will be installed in a new metering/sampling manhole. A new 4" trash will be installed, followed by a new automatic fine screen. A screen bypass with a 3/4" bar rack will be installed in parallel.

Prior facilities and processes for the WWTP have been described in DRBC Docket No. D-86-6 CP-1, approved by DRBC on April 29, 1986.

The docket holder's wastewater treatment facility discharges to waters classified as SPW and is required to have available emergency power. The Honesdale Borough WWTP has a generator available for emergency power supply. (SPW)

The docket holder's wastewater treatment facility is staffed 24 hours per day, and shall have a remote alarm system that continuously monitors plant operations. (SPW)

The docket holder's new wastewater treatment facility does not discharge to Outstanding Basin Waters (OBW), and is not required to have a nonvisible discharge plume. (SPW)

The docket holder's new and expanding wastewater treatment facility has prepared and implemented an emergency management plan suitable to Commission standards. (SPW)

The docket holder's new and expanding wastewater treatment facility is not required to provide "Best Demonstrable Technology" (BDT) as a minimum level of treatment. (SPW)

The project facilities are above the 100-year flood zone.

Wasted sludge will be hauled off-site by a licensed hauler for deposit at a (State-approved) facility.

c. Water withdrawals. The potable water supply in the project service area is provided by the Honesdale Consolidated Water Company.

The groundwater withdrawal is described in detail in Docket No. D-95-57 CP-1, which was approved by DRBC on June 26, 1996.

d. NPDES Permit / DRBC Docket. PADEP NPDES Permit No. PA0023469, effective April 1, 2007, includes final effluent limitations for the project discharge of 1.18 mgd and 2.2 mgd to surface waters classified by the PADEP as High Quality (HQ). The following average monthly effluent limits 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 (WWTP Prior to Expansion)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	30 mg/l (85% minimum removal*)	As required by NPDES permit
Dissolved Oxygen	6.0 mg/l (minimum at all times)	As required by NPDES permit
CBOD (5-Day at 20° C) (5-1 to 10-31) (11-1 to 4-30)	20 mg/l (85% minimum removal*)	As required by NPDES permit
	25 mg/l (85% minimum removal*)	
Ammonia Nitrogen (5-1 to 10-31) (11-1 to 4-30)	12 mg/l	As required by NPDES permit
	20 mg/l	
Fecal Coliform (5-1 to 9-30) (10-1 to 4-30)	200 colonies per 100 ml	As required by NPDES permit
	2000 colonies per 100 ml	

* DRBC Requirement

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

OUTFALL 001 (WWTP After Expansion)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	21 mg/l (85% minimum removal*)	As required by NPDES permit
Dissolved Oxygen	7.0 mg/l (minimum at all times)	As required by NPDES permit
CBOD (5-Day at 20° C)	15 mg/l (85% minimum removal*)	As required by NPDES permit
Ammonia Nitrogen	6.5 mg/l	As required by NPDES permit
Nitrate-Nitrite-Nitrogen	8.0 mg/l	As required by NPDES permit
Fecal Coliform (5-1 to 9-30)	200 colonies per 100 ml	As required by NPDES permit

OUTFALL 001 (WWTP After Expansion)		
PARAMETER	LIMIT	MONITORING
(10-1 to 4-30)	2000 colonies per 100 ml	
Total Phosphorus	1.25 mg/l **	As required by NPDES permit

* DRBC Requirement

** PADEP required a 2.6 mg/l effluent limit for Total Phosphorous in its NPDES permit. An effluent limit of 1.25 mg/l for Total Phosphorous is required by the DRBC to prevent a measurable change in EWQ.

EFFLUENT TABLE A-3: DRBC Parameters Not Included in NPDES Permit

OUTFALL 001 (WWTP)		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids*	1,000 mg/l *	One Per Quarter ** (WWTPs)

* DRBC Requirement

** See Condition II. z.

e. **Cost.** The overall cost of this project is estimated to be \$12,960,939.

f. **Relationship to the Comprehensive Plan.** The original Honesdale WWTP was included in the Comprehensive Plan by Resolution No. 62-14, adopted on July 25, 1962. The Honesdale WWTP was rerated by Docket No. D-86-9 CP-1 on April 29, 1986.

B. FINDINGS

The docket holder has proposed the upgrade and expansion of its existing WWTP and collection system in its Act 537 Plan. The docket holder’s selected alternative is to replace the original WWTP with a larger facility to adequately address the existing and future wastewater needs of Honesdale Borough and the contributing municipalities. Also included in the Act 537 Plan was the recommendation to repair and replace the existing collection system in a phased approach.

The docket holder was sent letters dated August 28, 2006 and May 21, 2007 requesting Honesdale Borough to apply to the Commission for Section 3.8 review and approval of the WWTP expansion project. This docket is issued in response to an Application submitted on July 12, 2007.

In 1992, the DRBC adopted Special Protection Waters requirements, as part of the DRBC Water Quality Regulations (WQR), designed to protect existing high water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap has been classified by the DRBC

as SPW. This stretch includes the sections of the river federally designated as "Wild and Scenic" in 1978 -- the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area -- as well as an eight-mile reach between Milrift and Milford, Pennsylvania which is not federally designated. The SPW regulations apply to this 120-mile stretch of the river and its drainage area. (Upper/Middle SPW)

The Honesdale Borough WWTP discharges to the drainage area of the Upper Delaware SPW.

SPW regulations require a demonstration that the project discharge will not result in a "Measurable Change" to the "Existing Water Quality" (EWQ) at the Lackawaxen River boundary control point (BCP). The Lackawaxen River BCP is located at the Western boundary of the Upper Delaware Scenic and Recreational River, which is near the confluence of the Delaware River. Section 3.10.3A.2.a.4. defines "Measurable Change" as an actual or estimated change in a mean (annual or seasonal) in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence limits that define EWQ. The project must demonstrate NMC to EWQ at the Lackawaxen River BCP, which is approximately 24.6 miles downstream of the project discharge.

The project was also required by PADEP to demonstrate NMC at the point of discharge to satisfy PADEP's anti-degradation requirements because the WWTP discharges to an HQ designated stream. The PADEP performed an evaluation of the proposed discharge using Water Quality Network Station No. 336 (Dyberry Creek) as a reference stream location since limited in-stream water quality data was available at the point of discharge. The PADEP's evaluation utilized an estimated seven-day low flow with a recurrence interval of ten years (Q_{7-10}) of 14.3 cfs (9.2 mgd) and a mean harmonic flow (Q_{mh}) of 76.0 cfs (49.1 mgd). The PADEP evaluation included a mix of grandfathered permitted loads and PADEP's Best Available Control Technology (BACT) to develop effluent limits for the project.

As an initial evaluation, DRBC staff performed a SPW NMC evaluation using the mass-balance approach. DRBC staff conservatively evaluated the entire 2.2 mgd wastewater discharge (as opposed to just the increased flow and load post 1992) at the point of discharge (as opposed to the BCP, approximately 24.6 miles downstream) with the effluent limits provided by PADEP. The NMC evaluation confirmed that the effluent limits required for the project by PADEP were protective of EWQ for dissolved oxygen and total suspended solids at the point of discharge. However, PADEP did not evaluate Total Nitrogen.

This conservative approach (using the entire 2.2 mgd load with the proposed PADEP effluent limits at the point of discharge) was done to determine if either further analysis or more stringent effluent limits were required to demonstrate NMC at the BCP. While the PADEP effluent limits are protective of the EWQ at the BCP for some parameters, any future expansion

or increase in the permitted loads would need to be reexamined for compliance with the NMC to EWQ at the BCP.

At the point of discharge, the DRBC staff analysis predicted that Ammonia-Nitrogen, Nitrite-Nitrate-Nitrogen, Fecal Coliform and Total Phosphorous exceeded the EWQ value. The values used for EWQ were either from the WQN No. 336 (Dyberry Creek) or from Table 1 Part A of the Commission's Water Quality Regulations (WQR). The Table 1 Part A values were used since there was no site-specific value available (D.O., Fecal Coliform, Total Nitrogen).

The docket holder was then requested to provide an analysis which demonstrated compliance with the SPW NMC to EWQ requirement for the following parameters: Ammonia-Nitrogen, Nitrite-Nitrate-Nitrogen, Fecal Coliform and Total Phosphorous.

The docket holder submitted a SPW NMC to EWQ analysis which demonstrated NMC to EWQ for the Lackawaxen BCP for Ammonia-Nitrogen, Nitrite-Nitrate-Nitrogen and Fecal Coliform at the PADEP issued effluent limits. The docket holder's NMC to EWQ analysis utilized in-stream kinetics and dilution that occurs downstream of the project discharge to the Lackawaxen BCP. In order to satisfy the NMC to EWQ requirement at the BCP, the docket holder's Total Phosphorous effluent limit was required to be reduced from 2.6 mg/l to 1.25 mg/l.

The docket holder prepared an Act 537 Plan dated June 2005, which evaluated the long-term wastewater management alternatives for the docket holder's service area. Approximately 35 EDUs within the docket holder's service area utilize on-lot disposal systems (OLDS) for wastewater disposal. Individual sewage disposal or residential spray application systems would be applicable only to these areas. The docket holder indicates no malfunctioning of these existing OLDS and is not proposing to connect them to the WWTP's connection system. The docket holder submitted a natural treatment alternatives analysis (NTAA) which evaluated four natural treatment possibilities; slow rate infiltration, overland flow, constructed wetlands and floating aquatic plants. The docket holder's NTAA concluded that natural treatment alternatives were not technically and/or economically feasible (WQR Article 3.10.3A.2d.).

Article 3.10.3A.2.e.1). and 2). of the *Water Quality Regulations, Administrative Manual - Part III*, states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the applicant's service area which is also located within the drainage area of Special Protection Waters. The service area of the docket holder is located within the drainage area to the Special Protection Waters. Since this project does entail additional construction and expansion of facilities and service area (i.e., there are new or increased non-point source loads associated with this approval), the non-point source pollution control plan requirement is

applicable at this time. Accordingly, Special Conditions II. s. & t. have been included in the Decision section of this docket.

The docket holder submitted a Non-Point Source Pollution Control Plan on October 31, 2007, which meets the general requirements of DRBC *Water Quality Regulations*, Article 3.10.3.A.2.e.1). The docket holder adopted PADEP's model stormwater ordinance, which includes requirements for groundwater recharge, water quality and peak rate control.

The limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable with one exception. The docket holder will be required to meet the 1.25 mg/l effluent limit for Total Phosphorous, which is more stringent than 2.5 mg/l effluent for Total Phosphorous in the NPDES Permit.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

Near the project site, the Lackawaxen River has an estimated seven-day low flow with a recurrence interval of ten years of 9.24 mgd (14.3 cfs). The ratio of this low flow to the average design wastewater discharge (2.2 mgd / 3.40 cfs) from the Honesdale WWTP is 4.2 to 1.

The nearest surface water intake of record for public water supply downstream of the project discharge is located near Easton, Pennsylvania, approximately 120 river miles downstream.

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.

C. DECISION

- I. Effective on the approval date for Docket No. D-86-6 CP-2 below:
 - a. The project described in Docket No. D-86-6 CP-1 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-86-6 CP-2; and
 - b. Docket No. D-86-6 CP-1 is terminated and replaced by Docket No. D-86-6 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 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 and Part II 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 PADEP’s approval of the NPDES 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 *Water Quality Regulations* of the DRBC.

d. The docket holder shall maintain and make available to DRBC upon request, records identifying the sources, volumes and characteristics of all wastewaters and sludges treated at the WWTP, as well as the dates when off-site wastes were received and treated.

e. 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 DRBC required monitoring results directly to DRBC (Project Review Section). The monitoring results shall be submitted annually absent any observed limit violations. If a DRBC effluent limit is violated, the docket holder shall submit the results and provide a written explanation within 30 days of the violation the action(s) the docket holder has taken to correct the violation and protect against a future violation.

f. 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*.

g. 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.

h. 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.

i. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F until stream temperatures reach 50°F, nor by more than 2°F when stream temperatures are between 50°F and 58°F, nor shall such discharge result in stream temperatures exceeding 58°F (Trout Waters only).

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

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. Upon completion of construction of the approved project, the docket holder shall submit a statement to the DRBC, signed by the docket holder's engineer or other responsible agent, advising the Commission that the construction has been completed in compliance with the approved plans, giving the final construction cost of the approved project and the date the project is placed into operation.

m. This docket approval shall expire three years from date below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

n. The docket holder is permitted to treat and discharge the categories of wastewaters defined in the "Area Served" section of this docket.

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. Prior to allowing connections from any new service areas or any new developments, the docket holder shall either submit and have approved by the Executive Director of the DRBC a Non-Point Source Pollution Control Plan (NPSPCP) in accordance with Section

3.10.3.A.2.e, or receive written confirmation from the Executive Director of the DRBC that the new service area is in compliance with a DRBC approved NPSPCP.

t. The docket holder's Non-Point Source Pollution Control Plan submitted on October 31, 2007 meets the general requirements of DRBC *Water Quality Regulations*, Article 3.10.3.A.2.e.1).

u. The docket holder shall provide for emergency power, install remote alarm controls and prepare an emergency management plan (EMP) within 12 months of docket approval (or upon completion of the reconstructed WWTP, whichever occurs first.) The docket holder shall submit the EMP and certify in writing to the Commission that it has complied with this condition by July 16, 2009 (SPW projects only).

v. In 1992, this portion of the Delaware River and its tributaries was classified as Special Protection Waters. The docket holder will provide assurance to the Executive Director that it is in compliance with Article 3.10.3.2.A.d.1), 2) and 4) of the DRBC *Water Quality Regulations*.

w. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. 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, the terms and conditions of this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

x. 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.

y. The docket holder and any other person aggrieved by a reviewable action or decision taken by the Executive Director or Commission pursuant to this docket may seek an administrative hearing pursuant to Articles 5 and 6 of the Commission's *Rules of Practice and Procedure*, and after exhausting all administrative remedies may seek judicial review pursuant to Article 6, section 2.6.10 of the *Rules of Practice and Procedure* and section 15.1(p) of the Commission's *Compact*.

z. 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.

BY THE COMMISSION

DATE APPROVED: July 16, 2008

EXPIRATION DATE: March 31, 2012