

**DOCKET NO. D- D-1976-055 CP-3**

**DELAWARE RIVER BASIN COMMISSION**

**Philadelphia Gas Works  
Richmond Facility Non-Contact Cooling Water Discharge  
City of Philadelphia, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Philadelphia Gas Works (PGW or docket holder) on January 31, 2014 (Application), for renewal of the docket holder's existing non-contact cooling water (NCCW) discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0012882 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on January 25, 2010, effective February 1, 2010.

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 Philadelphia City Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on December 9, 2014.

**A. DESCRIPTION**

1. **Purpose.** The purpose of this docket is to renew approval of an existing discharge of up to 6.67 million gallons per day (mgd), based on a long-term average flow, of NCCW from process compressors and heat exchangers and the fire suppression system via Outfall No. 004 at the PGW Richmond Plant.

2. **Location.** The NCCW discharge will continue to discharge to Water Quality Zone 3 of the Delaware River at River Mile 103.7 (Delaware River) via Outfall No. 004, in the City of Philadelphia, Pennsylvania as follows:

<b>OUTFALL NO.</b>	<b>LATITUDE (N)</b>	<b>LONGITUDE (W)</b>
004	39° 58' 46"	75° 04' 53"

3. **Area Served.** The PGW is a city-owned utility that supplies natural gas to customers in Philadelphia and the surrounding region. The Richmond Plant liquefies and stores natural gas during periods of low demand and regasifies it to augment pipeline gas during peak demand periods. The docket holder will continue to discharge NCCW from the existing facility's process compressors and heat exchangers and the fire suppression system. 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 Richmond Plant discharges up to 6.67 mgd, based on a long-term average, of NCCW from existing Outfall No. 004 to the Delaware River in Water Quality Zone 3.

b. **Facilities.** The PGW facility utilizes two systems to liquefy natural gas. The cascade refrigerant system process contains compressors and heat exchanger units that require water for cooling purposes. The other system, which is currently used, is an expander plant which does not require water for cooling purposes. Water is also continuously circulated to maintain pressure and cool pumping equipment in the plant's fire suppression system. All of the water used for these processes is withdrawn from the Delaware River and discharged back to the Delaware River at a location approximately 800 feet up river from the intake.

A portion of the project facilities including the pump house /wet well are located in the 100-year floodplain.

Sanitary wastewater is conveyed to the City of Philadelphia northeast wastewater treatment plant (WWTP), which was approved by the Commission at the July 22, 1964 Public Hearing (Docket No. D-62-1 CP).

c. **Water withdrawals.** NCCW is supplied by the docket holder's on-site intake on the Delaware River as is described in detail in Docket No. D-2012-017 CP-1, approved on September 12, 2012. The docket approves an allocation of 229.648 million gallons per month, which is equivalent to a peak average day of 7.408 mgd. The potable water supply in the project service area is supplied by the City of Philadelphia and was approved by the Commission via Docket No. D-64-4 CP on February 21, 1964.

d. **NPDES Permit / DRBC Docket.** NPDES Permit No. PA0012882 was approved by the PADEP on January 25, 2010 (effective February 1, 2010) and includes final effluent limitations for the project discharge of 6.67 mgd to surface waters classified by the PADEP as warm water/migratory fishery (WWF/MF). 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 No. 004 (NCCW)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Temperature	110 ° F (Max)*	As required by NPDES Permit

\* See DECISION Condition II.g.

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. Commission staff have requested PADEP include these parameters in their Permit.

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

OUTFALL No. 004 (NCCW)		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids**	1,000 mg/l *	Monthly

\* DRBC Requirement

\*\* See DECISION Condition II.o.

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

f. **Relationship to the Comprehensive Plan.** The PGW Richmond Plant was added to the Comprehensive Plan on December 8, 1976 via Docket No. D-76-55 CP. Approval of this docket will continue that approval. (See DECISION Condition I.c.).

## **B. FINDINGS**

The purpose of this docket is to renew approval of an existing discharge of up to 6.67 million gallons per day (mgd), based on a long-term average of NCCW from process compressors and heat exchangers and the fire suppression system via Outfall No. 004 at the PGW Richmond Plant.

PGW currently utilizes its expander plant to liquefy natural gas and the facility discharges of water are related to the operation of the fire suppression system. Water is continuously circulated (withdrawn and discharged) in order to maintain adequate pressure in the system. Prior to November 2011, PGW maintained the pressure using its high capacity pumps, which required an average of 6.67 mgd of water. In November 2011, PGW installed a smaller capacity jockey pump that is capable of maintaining sufficient water pressure at lower pumping rates (less than 1 mgd on average). PGW utilizes its larger capacity pumps if repairs on the system are needed.

### **Heat Dissipation Area**

Section 4.30.6.C. of the Commission's *Water Quality Regulations (WQR)* requires that discharges to Zone 3 shall not result in an induced temperature increase of 5°F (2.8°C) above the average 24-hour temperature gradient displayed during the 1961-1966 period, or a maximum of 86°F (30.0°C), whichever is less.

Section 4.30.6.F.3. of the Commission's *WQR* allows for heat dissipation areas up to 3,500 feet in length, two-thirds the surface width, and a maximum cross section up to one-quarter of the cross-sectional area of the stream in Zone 3. On December 22, 1995, PGW was issued a heat dissipation area of 150 feet centered on Outfall No. 004 by the Commission via letter. The 150 foot radius heat dissipation area around Outfall No. 004 was included in Docket No. D-1976-055 CP-2 and is continued in this docket renewal (See DECISION Condition II.g.).

**Other**

At the project site, the Delaware River has an estimated seven-day low flow with a recurrence interval of ten years ( $Q_{7-10}$ ) of 1,896 mgd (2,934 cfs). The ratio of this low flow to the average NCCW discharge from the PGW Richmond Plant is 284 to 1.

There are no surface water intakes of record for public water supply within 5 miles of this tidal discharge in either direction.

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 *Water Quality Regulations (WQR)*.

**C. DECISION**

I. Effective on the approval date for Docket No. D-1976-055 CP-3 below:

a. The project described in Docket No. D-1976-055 CP-2 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-1976-055 CP-3; and

b. Docket No. D-1976-055 CP-2 is terminated and replaced by Docket No. D-1976-055 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 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.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. 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.

g. 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, except within an assigned heat dissipation area consisting of 150 foot radius around Outfall No. 4.

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. 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.

k. 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.

l. 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.

m. 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.

n. 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.

o. 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: December 10, 2014**

**EXPIRATION DATE: January 31, 2020**