



## SUSQUEHANNA RIVER BASIN COMMISSION

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### Surface Water Withdrawal Application Loyalsock Creek Project Summary

**SRBC Pending No.:** 2024-015

This summary is only a portion of the application materials and is meant to provide general information about the proposed project.

#### Project Sponsor

**Company Name:** Pennsylvania General Energy Company, L.L.C.  
**Address:** 120 Market Street

**City:** Warren

**Contact Person:** Nathan Harris

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**State:** PA

**Zip Code:** 16365

**Title:** Vice President of Strategic Operations and Development

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#### Requested Surface Water Withdrawal Quantity

**Projected Design Year:** 0  
**Existing Withdrawal Quantity:** 2(mgd)  
**Requested Withdrawal Quantity:** 2(mgd)  
**Maximum Instantaneous Withdrawal Rate:** 1500(gpm)  
**Estimated Daily Operation:** 24(hours/day)

#### Requested Consumptive Use Quantity - No

**Existing Consumptive Use:** 0(mgd)  
**Requested Consumptive Use:** 0(gpm)  
**Pre-Compact/Grandfathered CU:** 0

## **Facility Location**

**Street Address:** 8012 Rt 87

**State:** PA

**County:** Lycoming

**Municipality:** Plunketts Creek Township

**Zip Code:** 17701

## **Surface Water Withdrawal Source Information**

**Source Name:** Loyalsock Creek

**Source Type:** stream

**Subbasin:** West Branch Susquehanna

## Detailed Description of Proposed Project

**Site/Facility name:** Loyalsock Creek

**Anticipated long-term owner / operator:** Pennsylvania General Energy Company, LLC

**Facility Type:** Surface Water Withdrawal Facility

**Date operations began:** 03/06/2024

### **Purpose of the withdrawal and the requested quantity of water to be withdrawn:**

Pennsylvania General Energy Company, L.L.C. (PGE) is proposing to renew the approved source Loyalsock Creek Surface Water Withdrawal in Plunkeets Creek Township, Lycoming County, Pennsylvania. The previous/current docket, 20231213, was originally approved 09/06/2019 under docket number 202190908 and most recently updated under a major modification approval dated 12/14/2023. The withdrawal quantity will remain at 2,000,000 gallon per day from the surface water withdrawal. No changes are proposed under this renewal application. The purpose of the withdrawal is to directly support the development of unconventional oil and gas wells in the region.

### **Description of site activities:**

Water will be withdrawn through buried intake screens located in Loyalsock Creek. Water will flow to a wet well where one of two pumps will pump water to the electromagnetic flowmeter located in the pump station building. This pump station will house the flowmeter readout for inspection by the SRBC staff. Additional pumps at the pump station will continue to pump water to a freshwater impoundment for storage. From this point, water is stored until being consumptively used for dust suppression, completions, or to support drilling activities. A more detailed review of how the water will be consumptively used is described in the next section

### **How water will be consumptively used at the facility**

#### *I. Volume of water required to produce oil and gas*

Oil and gas operations consumptively use water for a multitude of purposes. In particular, freshwater is primarily used for hydraulic fracturing operations. Hydraulic fracturing is a technique that fractures the unconventional formation via pumping a mixture of freshwater, additives, and sand under high pressures and rates.

PGE's hydraulic fracturing operations have consumptively used more water per day through time. The current hydraulic fracturing design used by PGE may consumptively use up to 4.0 million gallons per day (MGD). PGE's proposed withdrawal rate is 2.0 MGD. PGE is planning to construct 90 MG of storage to offset the 2.0 MGD deficit during hydraulic fracturing operations. The storage also offsets any potential passby flow restrictions.

Approximately 15-20% of fluid used for well completions consists of oil and gas generated drilling and production water. When PGE has insufficient water generated from its operations, PGE works with other operators to accept their fluid so that it can be reused. Through these efforts, PGE has reduced the need for freshwater.

PGE has prepared the following information that describes the typical unit volume for each of the three activities that account for the majority of consumptive use for its operations.

A. Drilling Operations

- Average historical consumptive use per well – 218,400 gallons
- Average historical daily consumptive use- 20,800 gallons
- Consumptive Uses: as a drilling fluid media during air or fluid drilling, dust suppression during air drilling operations, cementing, washing the rig, cleaning drill cuttings samples and non-potable water for septic systems.

B. Completion Operations

- Average historic consumptive use per well – 5.8 MG
- New proposed average usage is likely to average 15 MG
- Average historical daily consumptive use per well –approximately 1.5 MGD.
- New proposed completion design requires a consumptive use as much as 4 MGD.
- Consumptive Uses: Hydraulic fracturing of the well, hydrostatic pressure testing, coil tubing unit work and plug drill out and non-potable water for septic systems.

C. Dust Suppression

- Average historical consumptive use per well – 20,691 gallons (summer months only during active drilling and completion operations)
- Consumptive Use: In most circumstances, nuisance dust that is produced from heavy truck traffic is controlled through the application of freshwater. Freshwater vacuum trucks are equipped with a watering device to disperse water onto the road surface. The consumptive use of freshwater for dust suppression is restricted to the summer months and is typically only done during peak activities such as drilling and completion operations. The use from year to year can vary widely as it will be dependent on local weather conditions.

II. *Transportation*

A. Drilling

Due to the small overall volumes of freshwater needed for drilling and the reuse of water via centrifuges, freshwater is transported to the site via a vacuum truck. Water is retrieved from our freshwater storage or another approved source.

## B. Completions

Historically, very little freshwater has been trucked directly to the sites from either the withdrawal point or the freshwater impoundment. Water is delivered to the freshwater impoundments via buried or above ground piping, or trucking directly to the impoundment from a withdrawal point or public water supplier. The majority of water for completions being serviced by this withdrawal point will be transported via temporary aboveground pipelines that are connected to the freshwater impoundments.

## C. Dust Suppression

Freshwater is typically taken directly from a freshwater impoundment or a public water supplier, transported to the access road, and applied to the road with a vacuum truck.

### *III. Storage*

PGE utilizes lined earthen freshwater impoundments that are typically 15 MG to 25 MG in size to store freshwater. During the summer months water from the freshwater impoundments will be lost to evaporation.

In the case of the Loyalsock Creek, PGE will have a dedicated piping system to deliver water to the development areas. The water is to be stored in fresh water impoundments, where a vacuum truck may pick it up and deliver directly to the operation requiring water.

Finally, water may be stored temporarily on the pad in which it is going to be used in multiple 21,000 gallon above ground storage tanks or one larger above ground storage tank. These tanks are used to temporarily hold the water or provide sufficient reserve onsite during critical operations such as cementing during drilling operations or well completions.

### *IV. Reuse*

During active operations PGE reuses approximately 50 to 60% of all produced water, flowback water, and drilling water generated. When PGE is actively drilling and completing wells, this reduces total freshwater consumption by approximately 15%.