



SUSQUEHANNA RIVER BASIN COMMISSION

4423 North Front Street • Harrisburg, Pennsylvania 17110-1788

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Consumptive Use Application Summary

Source Name: Hydro Recovery Consumptive Use
2018

SRBC Pending No.: 2018-099

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

1.0 Application Background

This section requests pertinent information related to the application that is being submitted.

1.1 Project Sponsor

Company Name: Hydro Recovery, LP
Mailing Address Line 1: 1975 Waddle Rd
Mailing Address Line 2:
City: State College
State: PA
ZIP Code: 16803

Contact Person:

First Name: Charlie
Last Name: Bourque
Title: Sr. VP
Telephone: 8148629916
Fax: 8148629958
Mobile: 5752025673
E-mail: charlie.bourque@hydrorecoverylp.com

1.4 Requested Consumptive Use Quantity:

The consumptive use should be entered in million gallons per day (mgd) and rounded up to the nearest one thousand gallons (three decimal places).

1.4.1 Projected Design Year:
2023

1.4.2 Existing Consumptive Use
0.062(mgd)

1.4.3 Projected Consumptive Use
0.316(mgd)

2.3 Facility Location

Please enter the address of the parcel where the Project Facility is located.

Street Address: 10 Boone Run Road
State: PA
County: Tioga
Municipality: Blossburg Borough
Zip Code: 16912

2.1 PROJECT FACILITY DESCRIPTION

Hydro Recovery, LP was established to provide water treatment services to the natural gas exploration and production (E&P) companies working in the Marcellus Shale gas field area. The company provides treatment of high conductivity, high salinity “flowback” and production-related water associated with drilling, development, and production of natural gas wells in the Marcellus Shale gas field. The process includes physical and chemical treatment of the drilling-related water delivered to the facility and return to the natural gas operators, along with the sale of bulk fresh water, for reuse in hydraulic fracturing and well development operations.

Initially, Hydro Recovery, LP began operations on June 1, 2011 utilizing water from only the Blossburg Municipal Authority under Approval by Rule No. ABR-201010061. Currently, the sources of the fresh water are groundwater withdrawal from the on-site Hydro Recovery Well HR-1, a connection to the Blossburg Municipal Authority (BMA) public water supply, and stormwater runoff at the facility. Hydro Recovery received approval from the Susquehanna River Basin Commission (SRBC) for these usages in Docket No. 20110612 on June 23, 2011. Subsequently, SRBC renewed the approval of these same usages on June 4, 2015 in Docket No. 20150608. The approval is for a groundwater withdrawal (30-day average) of 0.216 million gallons per day (mgd) from Well HR-1 and a consumptive water use of up to 0.316 mgd from Well HR-1, the BMA water supply, and storm water.

Production operation of Well HR-1 began on October 14, 2011. The total average daily water usage from Well HR-1 and the BMA supply in 2012 (the first full year of operation) was 0.1808 mgd, and in 2017 (the most recent full year of operation) was 0.0753 mgd. The maximum daily usage was 0.315 mgd in 2012 and 0.301 mgd in 2017. Although the average daily water usage has decreased since 2012, the demand fluctuates and could increase in the future.

The anticipated future water demand for the water treatment facility, including bulk water sales, is approximately 316,000 gallons per day (gpd), but could be greater depending upon water availability and potential bulk water sales. Treated water from the process is reused by the Marcellus Shale E&P companies. Sludge from the treatment is hauled to a permitted landfill facility for disposal and there is no liquid discharge from the treatment process. A detailed description of the process is included below. This current withdrawal application is for renewal of the current docket approval at the same approved withdrawal and consumptive usage rates.

Detailed Description of Process

The daily water use of the project is described in the above overall facility narrative. As discussed in that narrative, the sources of fresh water for the treatment facility are the on-site well (HR-1) and a connection with the Blossburg Municipal Authority (BMA), both of which are metered, and storm water runoff at the facility. Per SRBC, water consumptively used by Hydro Recovery is the water added to and/or used during the flowback treatment process. All bulk water sales to the natural gas industry will be consumptively used and accounted for by the gas industry user. Therefore, water is consumptively used by Hydro Recovery during the following four treatment processes: acid wash tank, cake wash tank, clean water collection tank, and drill

fluid handling system. In-line flow meters were installed on the lines leading to those four treatment processes. Readings from each of these four totalizing meters are recorded daily on logs and are used to calculate the daily gallons used in each process. The daily consumptive use is calculated as the sum of the daily usage from the four meters. The metering plan submitted to SRBC by Meiser & Earl, Inc., dated July 22, 2011 and September 16, 2011, was summarized and approved in a letter from SRBC to Mr. David Hedrick, dated September 29, 2011. In addition, on September 14, 2015, SRBC approved a plan for calculating the consumptive use of storm water, which Hydro Recovery LP is proposing to revise slightly.

A Flow Chart in Section 2.2 shows meter locations and flow through the facility. Metering for facility processes consists of the following meters:

- Well HR-1: in-line electromagnetic Krohne Optiflux 4000
- Blossburg Municipal Authority: 1.5-inch, in-line electromagnetic Sensus Model OMNI T2
- Acid wash tank: 2-inch, in-line electromagnetic Sensus Model OMNI T2
- Cake wash tank: 4-inch, in-line electromagnetic Sensus Model OMNI T2
- Clean water tank: 4-inch, in-line electromagnetic Sensus Model OMNI T2
- Drill Fluid handling: 4-inch, in-line electromagnetic Krohne Optiflux Model 4100c

Treated water from the process is reused by the natural gas exploration and production companies. Sludge from the treatment is hauled to a permitted landfill facility for disposal and there is no liquid discharge from the treatment process. Separate metering of water provided by the Blossburg Municipal Authority for sanitary use (e.g., rest rooms) is metered by a 1-inch, in-line electromagnetic Sensus Model SR11 flow meter.