



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>

Surface Water Withdrawal Application Susquehanna River & Consumptive Use Application Project Summary

SRBC Pending No.: 2022-026

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: Marcia W Thiess

Address: 1400 Wago Road

State: PA

City: Mt. Wolf

Zip Code: 17347

Contact Person: Marcia Thiess

Title: Regulatory Affairs Snr Professional

Telephone: (717) 268-1531

Fax:

Mobile:

Email: marcia.thiess@talenergy.com

Requested Surface Water Withdrawal Quantity

Projected Design Year: 2037

Existing Withdrawal Quantity: 835(mgd)

Requested Withdrawal Quantity: 835(mgd)

Maximum Instantaneous Withdrawal Rate: 580000(gpm)

Estimated Daily Operation: 24(hours/day)

Requested Consumptive Use Quantity - Yes

Existing Consumptive Use: 23.1(mgd)

Requested Consumptive Use: 23.1(gpm)

Pre-Compact/Grandfathered CU: 8.1

Facility Location

Street Address: 1400 Wago Road
State: PA
County: York
Municipality: East Manchester Township
Zip Code: 17347

Surface Water Withdrawal Source Information

Source Name: Susquehanna River
Source Type: stream
Subbasin: Lower Susquehanna

2.1 Project Facility Description

Question

Upload a detailed description of the Project Facility. The detailed description should be approximately 1 to 2 pages in length and include, but is not limited to, the following:

- a. Site/Facility name
- b. Anticipated long-term owner and operator, if different
- c. Type of facility
- d. Purpose of the withdrawal and the requested quantity of water to be withdrawn.
- e. Description of site activities
- f. Provide the date operations began at the site or are anticipated to begin
- g. For consumptive use applications, briefly describe how water is or will be consumptively used at the facility, indicate the requested quantity of water to be consumptively used, and the purpose of the consumptive use.
- h. Other project specific details:
 - i. For renewal applications: Provide a summary of any proposed changes, or otherwise indicate there are no proposed changes for the project renewal.
 - ii. For golf courses: Indicate the number of holes, number and area (acres) of ponds (ornamental and functional), and any other pertinent information that describes the golf course operation
 - iii. For mining projects: Briefly describe all water-related uses, such as dust suppression on roads, addition of water to product (e.g. aggregate) and approximate acreage of project area
 - iv. For power generating facilities: Indicate the size (megawatts), fuel type, cooling method, and other water use processes (inlet cooling, etc.), as well as any consideration given to dry cooling

The project facility information provided will be accessible to the public on the Commission's website. Please do not include the results or conclusions of aquifer testing, proprietary information, or any maps.

Response

Brunner Island Steam Electric Station (BISES) is a three-unit (Unit 1, Unit 2, and Unit 3) electrical generation facility capable of operating on coal or natural gas. BISES is located at 1400 Wago Road in East Manchester Township, York County, Pennsylvania and owned and operated by Brunner Island, LLC. Each unit has an open-cycle (once-through) cooling system configuration. The three units are nominally rated for 1,411 megawatts (MW) of generating capacity. Units 1, 2, and 3 began

operating in 1961, 1965, and 1969, respectively. The source waterbody at BISES is the Susquehanna River. Cooling water is withdrawn from the Susquehanna River through two concrete river cooling water intake structures (CWIS) (one CWIS for Units 1 and 2, and one CWIS for Unit 3) to provide cooling water to each unit's condenser (one condenser per unit). Cooling water is primarily used for condenser cooling, with small quantities of water used for other station operations. The total maximum water withdrawal from the river is 835.000 million gallons per day (MGD), which is limited by the capacity of the existing circulating water pumps. Cooling water is returned to the river downstream of the station via a common, 2,200-foot (ft) discharge channel.

BISES utilizes a 34-cell cooling tower to reduce the temperature of non-contact cooling water discharged to the Susquehanna River via the discharge channel. The cooling tower became operational in the Spring of 2010. The cooling tower operates from March 1 through November 30 each year to reduce the discharge temperature of cooling water. During these months, all cooling water discharged from the condensers to the discharge channel is passed through the cooling tower. From December 1 through the end of February, cooling water bypasses the cooling tower and is discharged via the discharge channel to the Susquehanna River.

Consumptive use (CU) at BISES attributable to operation of the existing station are evaporation from the river surface induced by the discharge of heated cooling water (in-river evaporation), cooling tower evaporation, and the flue gas desulfurization (FGD) system CU. These three CU sources are subject to the Susquehanna River Basin Commission's (SRBC) regulation and are approved through BISES's current SRBC docket.

On September 12, 2007, the SRBC approved Docket No. 20070908 for the surface water withdrawal and CU of water at BISES. BISES was approved for surface water withdrawal of up to 835.000 MGD from the Susquehanna River and CU of up to 23.100 MGD. BISES's pre-Compact CU (as approved by the SRBC in their current docket) is 8.100 MGD. This 8.100 MGD is "grandfathered" and is exempt from water mitigation requirements.

Brunner Island, LLC is requesting to renew SRBC Docket No. 20070908, which authorized the surface withdrawal of up to 835.000 MGD (peak day) from the Susquehanna River and CU of up to 23.100 MGD (peak day) for station operations with no proposed project changes.