



SUSQUEHANNA RIVER BASIN COMMISSION

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Groundwater Withdrawal Application Summary

Source Name: Well C

SRBC Pending No.: 2021-056

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

1.1 Project Sponsor

Company Name: Three Mile Island Nuclear Station, Unit 1
Mailing Address Line 1: 441 S. P.O.Box 480
Mailing Address Line 2:
City: Middleton
State: PA
ZIP Code: 17057

Contact Person:

First Name: Daniel
Last Name: Jordan
Title: Site Decommissioning Chem and Env Specialist
Telephone: (717) 948-8470
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1.3 Existing and Projected Facility Water Use

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

Projected Design Year:
2031

Total Project Water Usage	Existing Usage (mgd)	Projected Usage For Design Year (mgd):
Maximum 30-day Average Water Demand :	0.034	0.108
Maximum Daily Water Demand :	0.116	0.161
System Capacity :	0	0

1.4 Requested Withdrawal Amount:

Estimated Daily Hours of Operation per Day (Ex. = 5): 15
Maximum Instantaneous Withdrawal Rate (gpm): 31
Maximum 24-Hour Day (mgd): 0.045
Maximum 30-Day Average (mgd): 0.045

2.2 Facility Location

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

Street Address: PA-441
State: PA
County: Dauphin
Municipality: Londonderry Township
Zip Code: 17057
Subbasin: Lower Susquehanna

THREE MILE ISLAND SRBC AQUIFER TEST WAIVER- PROJECT FACILITY DESCRIPTION

- a. Site/Facility name
- b. Anticipated long-term owner and operator, if different
- c. Type of facility
- d. Purpose of the withdrawal
- e. Description of site activities
- f. The requested quantity of the water to be withdrawn
- g. Provide the date operations began at the site or are anticipated to begin

Groundwater industrial/ production supply wells NW-A, NW-B, and NW-C are a groundwater source located at Exelon Generation Company, LLC's Three Mile Island Generating Station at PA-441, Middletown, Dauphin County, Pennsylvania 17057 (the Site). The industrial wells have been operated since 1996. Since 2014, Exelon has provided data to SRBC regarding flow, water elevations, and well depth readings. Exelon Generation Company, LLC is the anticipated long term owner and operator for the project.

The Station consists of two Babcock and Wilcox designed pressurized water reactors (TMI-1 and TMI-2), two steam turbine generators, closed-loop heat-dissipation systems, and associated auxiliary facilities and engineering safeguards. TMI-1 entered commercial service in September 1974, and was shut down in September 2019. TMI-2 entered commercial service in December 1978, but was permanently shut down in March 1979. TMI-2 is presently in a condition referred to as Post-Defueling Monitored Storage.

The groundwater withdrawal application for NW-A, NW-B, and NW-C requests a 30-day average withdrawal rate of 0.099 mgd (69 gpm) and a maximum instantaneous withdrawal rate of 220 gpm. The groundwater withdrawal application also requests that the total system limit for the facility's sources (not including the water purchased from the public water supply system) be decreased from 0.225 mgd to 0.099 mgd, which is a decrease of 0.126 mgd. The 0.126-mgd total system decrease is requested due to the fact that the Station is no longer generating energy and is in the decommissioning process. Supporting this is the fact that in 2020, Exelon averaged around 30,000 gpd with a yearly high of 59,000 gpd.

The well water from industrial wells (NW-A, NW-B, and NW-C) will be used to supply groundwater to plant systems on an as-needed basis. The water has historically been used for various functions including nuclear service non-contact cooling water (safety related system cooling), secondary service non-contact cooling water (non-safety related system cooling), decay heat non-contact cooling water, and reactor building emergency cooling. Additional functions include makeup to the fire service system, river water pump lubrication, and for the production of demineralized water.

Three Mile Island Unit - 1 historically utilized surface water withdrawal (river water) for non-consumptive cooling purposes, flow, and makeup (consumptive use) to former processes on site. Cooling water uses and dilution flow are considered once through, where all water removed from the river, less internal evaporation, is returned to the river. The largest consumptive use of the surface water was makeup to the condenser cooling water process where water temperature was reduced by an evaporative cooling action as seen historically through TMI-1's two cooling towers as water vapor. Following the permanent shutdown of TMI-1 in 4Q2019, processes utilizing consumptive use, including the TMI cooling towers, have been abandoned and current surface water withdrawal is used for non-consumptive cooling and flow only. During 2021 and 2022, water enters the facility through the TMI Unit 1 Screen House and is pumped through internal heat exchangers. The flow then exits the facility at the site's outfall slightly warmer than upon entry, returning all water to the river. TMI Unit 1 is under continuous decommissioning and is on track to become a cold and dark facility during the second half of 2023. Near this period, TMI-1 will cease using river water pumps and surface water withdrawal will no longer be possible.