

DOCKET NO. D-2000-059 CP-3

DELAWARE RIVER BASIN COMMISSION

**Reading Area Water Authority
Surface Water Withdrawal
Ontelaunee Township, Berks County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on October 28, 2019 for renewal of an allocation of surface water previously approved by the Commission on May 11, 2011 (Application). The project was most recently approved by the Pennsylvania Department of Environmental Protection (PADEP) on August 23, 2018 (Water Allocation Permit No. WA 06-127B).

The Application was reviewed for continued inclusion in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on February 10, 2021.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew the approval of an allocation of 35 million gallons per day (mgd) of water from the Lake Ontelaunee Dam Intake and approve an allocation of up to 20 mgd from the Maiden Creek Intake with a combined total allocation of 35 mgd (1,085 million gallons per month).

2. Location. The Lake Ontelaunee Dam and Reservoir are located on Maiden Creek in the Schuylkill River Watershed in Ontelaunee Township, Berks County, Pennsylvania at River Mile 92.47 - 86.7 - 3.0 (Delaware River, Schuylkill River, Maiden Creek, respectively). RAWA's primary water supply intake is incorporated into the Lake Ontelaunee Dam. A secondary in-stream intake is located about 2 miles downstream of the dam at River Mile 92.47 - 86.7 - 0.7 (Delaware River, Schuylkill River, Maiden Creek, respectively). Maiden Creek is at the project site is classified by the PADEP as a Warm Water Fishery supporting Migratory Fishes (WWF-MF).

Specific location information has been withheld for security reasons.

3. Area Served. The docket holder's service area includes portions of Bern Township, Cumru Township, Kenhorst Borough, Lower Alsace Township, Muhlenberg Township, Ontelaunee Township, Robeson Township and all of the City of Reading. The new area served in Robeson Township was acquired as a result of the recently constructed water pipeline serving the Birdsboro Power Plant. Each of the areas served are located in Berks County, Pennsylvania. The service area is outlined on a map entitled "Figure 4 Service Area" submitted with the Application.

Additionally, RAWA sells water wholesale to customers for use outside its service area via interconnections with Pennsylvania American Water Company – Glen Alsace District, Muhlenberg Township Authority, Bern Township Municipal Authority, Ontelaunee Township Municipal Authority and the Birdsboro Power generating facility, located in Birdsboro Borough, Berks County, Pennsylvania.

For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

4. Design Criteria. The docket holder's public water supply is sourced from surface water from the Lake Ontelaunee reservoir or a supplemental in-stream Maiden Creek Intake and treated at the docket holder's filter plant. The water system currently serves water to a population of 87,879 persons on 26,961 domestic service connections, 935 commercial service connections and three industrial service connections and records an existing average and maximum water demand of 13.973 mgd and 20.389 mgd, respectively. The docket holder projects the 10-year average and maximum daily water demand to increase to 18.366 mgd and 21.709 mgd, respectively. The continued allocation of 35 mgd is sufficient to meet these demands.

5. Facilities. The facilities used for the purpose of providing water to the docket holder's public water supply system include an surface water impoundment, an intake located at the Lake Ontelaunee Dam, a secondary intake located in the Maiden Creek, a water filtration plant and a number of permanent interconnections with local municipalities and municipal water authorities. Specific details of each of these facilities are as follows:

5.1 Lake Ontelaunee Dam and Reservoir. In 2000, RAWA obtained DRBC and the Federal Energy Regulatory Commission (FERC) approvals to decommission the Ontelaunee Hydroelectric Power Generating Project that was approved in 1988. With the removal of its hydroelectric turbines, RAWA began to implement a new operating plan for Lake Ontelaunee Reservoir to store water for the purpose of public water supply. The penstock remains are used as a conduit for reservoir releases. Storage of water has also created an in-reservoir fishery and lakeside recreation area. The Lake Ontelaunee Reservoir has a calculated available storage volume of 3.2 billion gallons. The Lake Ontelaunee Dam is 56 feet high and has a 500-foot wide, ogee-shaped spillway. The drainage area above Lake Ontelaunee is approximately 192 square miles.

5.2 Surface Water Intakes

The existing project intakes have the following characteristics:

INTAKE NO.	WITHDRAWAL WATER BODY	PUMP CAPACITY	7Q10 FLOW AT INTAKE (CFS)	YEAR CONSTRUCTED
1	Lake Ontelaunee	27,777 gpm	18.9	1926
2	Maiden Creek	14,000 gpm	19.3	1935

Lake Ontelaunee Intake. The primary water supply intake is incorporated into the Lake Ontelaunee Dam. Raw water for the RAWA system is drawn through a reinforced concrete gatehouse located in an abutment of the dam. The intake has a 35 mgd capacity. RAWA installed fish nets at the intake screening facilities to reduce fish entrainment in accordance with the U.S. Fish & Wildlife Service (USFWS) recommendation. RAWA routinely maintains the nets, as needed. Raw water from the Intake is delivered to the Maiden Creek Filter Plant by gravity through a 2,800 feet long, concrete lined tunnel and a 60-inch diameter, 4,880 feet long concrete conduit system.

Maiden Creek Intake. The secondary Maiden Creek in-stream intake is located near the water treatment plant. The intake has a pumping capacity of 20 million gallons per day (mgd) and is generally used during the summer months.

5.3 RAWA Water Filtration Plant. Prior to distribution, water withdrawn from the intakes is treated by conventional processes at the docket holder's water filtration plant. The filtration plant was originally constructed in 1935 with additions made in 1956 and major renovations in 1994. Since 1995, numerous upgrades and renovations to the plant and treatment processes have occurred. The plant is located north of the City of Reading near the confluence of Maiden Creek and Willow Creek.

The filter plant has a design capacity of 53.7 mgd and a permitted capacity of 40.0 mgd. The treatment process includes disinfection, particulate removal, corrosion control with fluoride added. Disinfection is provided with chloramines. Additional disinfection and corrosion control chemicals are added at various booster stations throughout the service area. The system has an active total storage capacity of approximately 50.0 million gallons. The filters at the plant are routinely backwashed and the back-wash effluent is discharged to Maiden Creek as described in Docket No. D-2010-009 CP-2, approved by the Commission on December 9, 2015.

5.4 Interconnections. The docket holder regularly distributes water to water purveyors and bulk customers outside its area served via the following interconnections.

NAME OF INTERCONNECTION	APPROVED ALLOCATION	PADEP WATER ALLOCATION PERMIT NO.	DRBC DOCKET NO.
PAWC Glen Alsace District	1.50 mgd	WA 06-1011A	D-1999-030 CP-5
Muhlenberg Township Authority	0.265 mgd*	WA 06-1036	D-2001-030 CP-3
Bern Township Municipal Authority	0.517 mgd	WA 06-1019	No docket required

NAME OF INTERCONNECTION	APPROVED ALLOCATION	PADEP WATER ALLOCATION PERMIT NO.	DRBC DOCKET NO.
Ontelaunee Township Municipal Authority	1.40 mgd	WA 06-1021	No docket required
Birdsboro Power Facility	3.07 mgd	Not required	D-2016-004-1

*based on peak month 30-day average. PADEP also approved up to an additional 1.296 mgd on an emergency basis.

All water service connections and bulk interconnections are metered.

All intakes are metered.

The Birdsboro Power Facility interconnection with RAWA was approved by the Commission on December 14, 2016 in Docket No. D-2016-004-1.

The docket holder's water distribution system is interconnected with the Western Berks Water Authority which is used only for emergency purposes.

6. Other. Much of the wastewater that is generated in the docket holder's service area is conveyed to the Reading City Fritz Island wastewater treatment plant most recently approved by DRBC Docket No. D-1986-028 CP-4 on December 11, 2019. The discharge is approved by PADEP in NPDES Permit No. PA0026549. Wastewater generated from the docket holder's interconnections is treated at the following facilities:

Facility	DRBC Docket No. and Approval Date	PADEP NPDES Permit No.
PA American Water Company - Exeter Township WWTP	D-1992-003 CP-2 June 15, 2016	PA0026972
Amity Township WWTP	D-1990-078 CP-4 September 16, 2015	PA0070351
Reading Regional Airport Authority WWTP	D-1986-038 CP-4	PA0028720
County of Berks WWTP	D-1990-036 CP-2 (Date)	PA0033995
Birdsboro Municipal Authority WWTP	D-1974-126 CP-3 September 16, 2015	PA0021709
Robeson Township Sewer Authority	D-1983-034 CP-4 September 13, 2017	PA0051900

7. Relationship to the Comprehensive Plan. The RAWA water supply facilities were previously included in the Comprehensive Plan by Resolution R-62-14, Addendum No. 1, Section VII, Pre-Existing Projects adopted July 25, 1962. RAWA's filtration plant expansion to

40 mgd was approved via Docket No. D-67-237 CP on May 22, 1968. The RAWA 8 mgd increase in diversion from 27 mgd to 35 mgd from Lake Ontelaunee Reservoir was approved via Docket No. D-69-139 CP on April 27, 1969. The hydroelectric facilities at Ontelaunee Dam had been approved via Docket No. D-86-72 CP on August 3, 1988. The hydroelectric facilities were removed from service and a revised Operating Plan for Lake Ontelaunee Reservoir was approved via Docket No. D-2000-59 CP on September 28, 2000. An interconnection and a revised operating plan for Lake Ontelaunee Reservoir was Approved via Docket No. D-2000-059 CP-2 on May 11, 2011.

B. FINDINGS

1. Conservation Release Rates and Passby Flow Requirements

Lake Ontelaunee is subject to conservation release requirements. PADEP Water Allocation Permit No. WA 06-127B requires a continuous flow of not less than 30.0 mgd (46.55 cfs) be maintained in Maiden Creek immediately below the Lake Ontelaunee intake. Information contained in the PADEP Report on the Application for Water Allocation, dated August 2018, indicated that the conservation release is equal to 15.7 percent of the Maiden Creek's Average Daily Flow (ADF). While this is less than the PADEP's goal of 20 percent ADF, PADEP required the docket holder to conduct a study to locate additional source capacity (Condition No. 10 of the Water Allocation Permit). This would allow the Lake Ontelaunee conservation release to be increased in the future and would allow the docket holder to meet demands during drought conditions.

The docket holder's Maiden Creek intake withdrawal is also subject to passby flow requirements. PADEP Water Allocation Permit No. WA 06-127B requires a flow of not less than 32.1 mgd (49.66 cfs) be allowed to pass at all times. When the stream flow below the Lake Ontelaunee Reservoir is less than this amount, the withdrawal shall be reduced to maintain 32.1 mgd in the stream channel below the intake. When the natural flow is equal to or less than 32.1 mgd, no water may be withdrawn and the entire natural flow shall be allowed to pass the Maiden Creek intake, to maintain such natural flow in the stream channel below the intake as may prevail above.

2. Water Audits for Public Water Supply Systems Serving Greater than 100,000 gpd

Section 2.1.8 of the Water Code states that it is the policy of the Commission to establish a standardized water audit methodology for owners of water supply systems serving the public to ensure accountability in the management of water resources. Voluntary Water Audits were encouraged for public water supply systems through December 31, 2011 (Section 2.1.8.B.). Effective January 1, 2012, the owners of each public water supply system are required to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance (Section 2.1.8.C). Water audits shall be submitted annually to the Commission by March 31. The docket holder submitted their most recent Water Audit on January 15, 2020.

3. Drought Management and Contingency Plan

The docket holder has prepared a Public Water Supply Drought Contingency Plan as required by Section 2.3.5.1 A. of the Commission's *Rules of Practice and Procedure (RPP)*. This plan was approved by PADEP on March 6, 2019. The docket holder shall implement the plan upon direction by the Executive Director. (see Section C. DECISION Condition C.25.).

4. Surface Water Charges

The City of Reading constructed and maintained Lake Ontelaunee Reservoir prior to the establishment of the DRBC. The docket holder is a municipal authority that is successor in interest to the City of Reading as owner and operator of Lake Ontelaunee Reservoir. Article 5.1.3.D, of the DRBC Basin Regulations – Water Supply Charges provides:

“Notwithstanding the provisions of A., B. and C., there shall be no charge for water made available from storage where: (1) The cost of the storage facility has or will be otherwise paid for by the user; (2) such storage controls a drainage area; and (3) the use does not exceed the yield of such storage without augmentation from other surface water of the basin.”

RAWA meets the conditions of Article 5.1.3.D and therefore is not required to pay water supply charges to the Commission for withdrawals from the Lake Ontelaunee Reservoir as: 1) the City of Reading and the successor agency, RAWA, has paid for and maintains the Lake Ontelaunee Reservoir storage facility; 2) the Lake Ontelaunee Reservoir storage facility controls a drainage area; and 3) RAWA’s use does not exceed the yield of the Lake Ontelaunee Reservoir storage facility without augmentation from other surface water of the basin.

5. Other Findings

PADEP Water Allocation Permit No. WA 06-127B required the docket holder to install accurate measuring and recording instruments or devices to determine the amount of flow in Maiden Creek stream channel for purposes of conservation release and passby flow requirements. The docket holder established agreements with the U.S. Geologic Survey (USGS) for the installation, monitoring process and operation, and maintenance of a new gaging station that was installed in March 2020. The USGS gaging station (USGS 01470761 Maiden Creek at Berkley) is located approximately 60 feet upstream from the Maiden Creek water supply intake structure. The docket holder maintains records of the Daily Flow on site, and reports via PADEP’s Greenport as Maiden Creek IFR (439).

DRBC Docket D-2000-059 CP-2 required the docket holder to install a gaging station to monitor, record and calculate the inflow to the Lake Ontelaunee Reservoir. Inflow monitoring is necessary for the docket holder to comply with its drought period conservation release requirements. A gaging station was established and is maintained by the USGS with funding provided by the docket holder through the DRBC. The USGS 01470755 Maiden Creek near Virginville, PA gage was placed into operation in March 2012.

Condition 10. Of the PADEP Water Allocation Permit No. WA 06-127B requires that the docket holder initiate engineering study to acquire an additional source of water supply and

develop such sources within 15 years of the date of the Water Supply Permit (due 2033). The docket holder is considering an additional surface water withdrawal intake on the Schuylkill River. Any additional water withdrawal will require review and action by the Commission.

Commission staff estimate that the project withdrawals, used for the purpose of public water supply including the demands of two electric generating station customers, results in an weighted average consumptive use of approximately 29.5 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project is designed to conform to the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

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.

C. DECISION

Effective on the approval date for Docket No. D-2000-059 CP-3 below, the project described in Docket No. D-2000-059 CP-2 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2000-059 CP-3; Docket No. D-2000-59 CP-2 is terminated and replaced by Docket No. D-2009-059 CP-3; and the project and the appurtenant facilities described in in Section A.4. (Design Criteria) and A.5. (Facilities) shall be added to the Comprehensive Plan. The project and appurtenant facilities as described in in Section A.4. (Design Criteria) and A.5. (Facilities) are approved subject to the following conditions, pursuant to Section 3.8 of the *Compact*:

Monitoring and Reporting

1. The docket holder shall continue to report to the PADEP all sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

2. The project withdrawals shall be metered by means of an automatic continuous recording device, flow meter, or other method, and shall be measured to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted for surface water withdrawals by the designated agency (PADEP) if maintenance of the 5 percent performance is not technically feasible or economically practicable. Meters or other methods of measurement shall be subject to approval and inspection by the PADEP as to the type, method, installation, maintenance, calibration, reading and accuracy. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.

3. In accordance with DRBC Resolutions No. 87-6 (Revised) and No. 2009-1, the docket holder shall continue to implement to the satisfaction of the PADEP, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate non-revenue water and determine the current status of system infrastructure; recommendations to monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.

4. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8 of the Water Code, the docket holder shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding guidance. Water audits shall be submitted annually to the Commission by March 31.

5. The docket holder shall implement to the satisfaction of the Bureau of Watershed Management, PADEP, a continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. The docket holder will report to the Bureau of Watershed Management, PADEP, on the actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

Other Conditions

6. During any month, the combined withdrawal from all sources shall not exceed 35 million gallons. No intake shall be pumped above the maximum rate and monthly allocation as indicated below:

INTAKE ID	MAXIMUM DAILY RATE (MGD)	MONTHLY ALLOCATION (MGM)
Lake Ontelaunee Dam Intake	35	1085
Maiden Creek Intake	20	620

7. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges 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, 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.

8. The Maiden Creek Intake withdrawal must not cause the streamflow to be less than 32.1 mgd (49.66 cfs) at the point of taking. Whenever the streamflow below the intake is equal to or less than this amount, no withdrawal shall be made and the entire natural streamflow must be allowed to pass unless temporarily modified by PADEP during an emergency condition as described in the PADEP Water Allocation Permit No. WA-06-127B.

9. A continuous flow of not less than 30.0 mgd (46.55 cfs) shall be maintained at all times in the Maiden Creek immediately below the Lake Ontelaunee Dam Intake. The conservation release may be temporarily modified by PADEP during an emergency condition as described in the PADEP Water Allocation Permit No. WA-06-127B.

10. The surface water intakes and operational records shall be available at all times for inspection by the DRBC.

11. The surface water intakes shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

12. Each new water service connection shall include a water meter in accordance with the DRBC's Resolution No. 87-7 (Revised).

13. No water service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

14. The docket holder shall implement to the satisfaction of the PADEP, a drought or other water supply emergency plan.

15. No new water service connections shall be made to premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.

16. 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.

17. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.

18. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations. (see 18 CFR 401.43).

19. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will

not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

20. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

21. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

22. If the monitoring required herein or any other relevant data or information demonstrates that the operation of this project is interfering with or otherwise impairing existing uses of ground or surface water, or if the docket holder receives a complaint from an existing ground or surface water user within the zone of influence of the withdrawal alleging such interference or impairment, the permit holder shall immediately notify the Executive Director, and unless excused by the Executive Director, shall investigate the demonstrated or alleged impacts. For purposes of this condition, notification shall mean either (a) electronic transmittal of written notice to the Executive Director via email (using addresses posted on the DRBC website); or (b) written notice to the Executive Director and a telephone call to the Project Review Section at 609-883-9500, ext. 216. (Oral notification must always be accompanied by immediate written notification directed to the Executive Director.) In addition, the docket holder shall provide written notice to all potentially affected water users of the docket holder's responsibilities under this condition. **Any well or surface water supply that is impaired as a result of the docket holder's project withdrawal shall be repaired, replaced or mitigated at the docket holder's expense.** The scope of the options to consider for repair, replacement and/or mitigation shall not be limited solely to those that are owned, operated, or controlled by the project sponsor. An investigation report and/or mitigation plan prepared and certified by a licensed professional engineer and/or a licensed professional geologist shall be submitted to the Executive Director as soon as practicable following notice of the demonstrated or alleged impairment consistent with this paragraph. The Executive Director shall make the final determination regarding the scope and sufficiency of the investigation and the extent of any mitigation measures that may be required. Where ground and surface waters are rendered unavailable, unusable, or unsuitable for the pre-existing use, the Executive Director may direct the docket holder to take interim actions to mitigate such impacts, pending completion of the investigative report and any long-term repair, replacement or mitigation.

23. 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.

24. For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the docket holder pursuant to this approval shall be

subject to the prohibition of those nonessential uses specified by the Governor of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

25. The docket holder shall implement the DMCP upon direction by the Executive Director.

26. 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.

BY THE COMMISSION

APPROVAL DATE: March 10, 2021

EXPIRATION DATE: March 10, 2031