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**DOCKET NO. D-2010-028 CP-2**

**DELAWARE RIVER BASIN COMMISSION**

**Tamaqua Area Water Authority and Borough of Tamaqua  
Still Creek and Owl Creek Reservoirs**

**Surface Water Withdrawal  
Rush Township and Tamaqua Borough, Schuylkill County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on December 8, 2021 for renewal of an allocation of surface water and review of a surface water withdrawal and reservoir release project (Application). The surface water withdrawals for public water supply were approved by the Pennsylvania Department of Environmental Protection (PADEP) in Water Allocation Permit No. WA54-626A and Public Water Supply Permit No. 3540012.

The Application was reviewed for continuation of this project in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Schuylkill County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on August 10, 2022.

**A. DESCRIPTION**

**1. Purpose.** The purpose of this docket is to renew the approval of an existing surface water withdrawal of up to 155 million gallons per month (mgm) from an existing surface water intake located on the docket holder's Still Creek Reservoir for public water supply. The docket also renews the approval of releases of up to 36 million gallons per day (mgd) from Still Creek Reservoir and up to 8 mgd from Owl Creek Reservoir with a combined maximum release of 43.3 mgd for use by Constellation Energy Generating, LLC for its consumptive and non-consumptive cooling water needs at the Limerick Generating Station (LGS).

**2. Location.** The Still Creek Reservoir is located in Rush Township, Schuylkill County, Pennsylvania, approximately 2.3 miles north of Hometown, Pennsylvania. The Still Creek Dam is located at River Mile 92.47 - 102.1 - 30.15 - 1.0 (Delaware River – Schuylkill River – Little

Schuylkill River – Still Creek). Still Creek, downstream of the Still Creek Reservoir is classified by the PADEP as supporting Cold Water and Migratory Fishes (CWF, MF).

The Owl Creek Reservoirs are located in Borough of Tamaqua, Schuylkill County, Pennsylvania. The Lower and Upper Owl Creek dams are located at River Miles 92.47 – 102.1 – 22.1 – 1.7 and 92.47 – 102.1 – 22.1 – 2.3 (Delaware River – Schuylkill River – Little Schuylkill River – Owl Creek), respectively. Due to their in-line, close proximity to one another, the Upper and Lower Owl Creek Reservoirs are assumed to function as a single reservoir of combined capacity. The Owl Creek Basin is classified by the PADEP as High Quality (HQ), supporting Cold Water and Migratory Fishes (CWF, MF).

Specific location information has been withheld for security reasons.

**3. Area Served.** The docket holder serves public water from the Still Creek Reservoir via their water treatment plant to customers in Tamaqua Borough and Rush, Walker, West Penn, and Schuylkill Townships, all located in Schuylkill County, Pennsylvania. The service area is outlined on a map entitled “Water Service Areas Tamaqua Area Water Authority”, dated March 2016 submitted with the Application. The docket holders also release augmentation water from the Still Creek and Owl Creek Reservoirs to supply the consumptive and non-consumptive cooling water needs at the LGS. 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 system currently serves water to a population of 6,309 customers on 2,948 domestic service connections, 313 commercial connections, 17 industrial connections, and 62 other (total of 3,340 connections) and records an existing average and maximum water demand of 1.153 mgd and 1.665 mgd, respectively. The docket holder projects the 10-year average and maximum water demand to increase to 1.166 mgd and 1.682 mgd, respectively. The allocation of 155 mgm granted herein satisfies the docket holder’s expected 10-year water demand, equals the PADEP water allocation and meets the maximum water treatment capacity of the Still Creek water filtration plant.

**5. Facilities.** The project facilities have the following characteristics:

**5.1 Still Creek Reservoir.** Still Creek Dam is an earth fill dam with a central clay core. Construction of the dam was completed in 1935, with several rehabilitation projects completed since that time. The embankment has a height of 86 feet and a length of 1,160 feet. At nominal pool elevation of 1,182 feet (the spillway elevation), the capacity of the Still Creek Reservoir is 2,700 million gallons (mg). The drainage area upstream of the dam is 6.9 square miles.

Raw water from the Still Creek Reservoir is delivered by gravity (when the water level is at or above 1,176 feet) to the Still Creek Water Treatment Plant (WTP) via 200 feet of 36-inch and 5,200 feet of 30-inch raw water transmission main with a hydraulic capacity of 12 mgd. When the water level in the reservoir is below 1,176 feet, an

auxiliary raw water pumping station is utilized to ensure adequate hydraulic head to the WTP. Flow is measured at the WTP by a 24-inch BIF venturi meter, which is calibrated annually. The flow rate is transmitted by an indicating flow transmitter to the main control panel for control, indication, totalization and to the SCADA system for display, alarm, and report generation. The maximum, minimum, and average raw water flow rates are recorded on the WTP's Daily Water Inventory Report. Monthly operational reports are submitted to the PADEP.

Raw water from the reservoir is treated at the WTP, which has a permitted capacity of 5 mgd. From the WTP, treated water is delivered to customers via a 30-inch transmission main, from which smaller mains deliver water to the distribution systems. The distribution systems include three 1.0 mg storage tanks, one 1.5 mg tank, and two 0.5 mg tanks. Pumping is used to deliver water to the Rush Township distribution system. A pressure-regulating valve is used to establish a separate distribution system serving customers in the lower-elevation Hometown area of Rush Township. The distribution systems in Tamaqua Borough are fed by gravity from the WTP. Pressure regulating valves are used to establish a separate distribution system serving customers in the lower-elevation area of the Borough and Walker and West Penn Townships.

Prior to entering the distribution system, the water is treated at the Still Creek WTP by coagulation, clarification, mixed media gravity filtration, and chlorine disinfection. Filter backwash discharge is conveyed to the Little Schuylkill River. The facility discharge does not require a DRBC Docket as filter backwash design flow is below Commission thresholds for review. The discharge of filter backwash is regulated by PADEP National Pollutant Discharge Elimination System (NPDES) Permit No. PA0063053.

All water service connections are metered. The Still Creek intake is metered. The water system is not presently interconnected with any other water system.

**5.2 Owl Creek Reservoirs.** The Upper and Lower Owl Creek Dams are located on Owl Creek in series and impound 70-acre and 26-acre reservoirs, respectively. The primary purpose of the Owl Creek Reservoirs is for recreation. The initial construction of the Upper Owl Creek Reservoir was completed in 1921. The dam is a 1300-ft long earthfill embankment with a maximum height of about 38 ft. A nine-inch thick concrete core wall is located along the centerline of the dam. At the spillway elevation of 1,094 feet, the capacity of the Upper Owl Creek Reservoir is 300 mg. The drainage area upstream of the Upper Owl Creek Dam is 1.5 square miles. The initial construction of the Lower Owl Creek Reservoir was completed in 1928. Lower Owl Creek Dam is located downstream of Upper Owl Creek Dam. The dam consists of an earthfill embankment approximately 33-ft high and 1,000-ft long. At the spillway elevation of 1,056.6 feet, the capacity of the Lower Owl Creek Reservoir is 55 mg. The drainage area upstream of the Lower Owl Creek Dam is 1.5 square miles. In 2013 the reservoirs were rehabilitated to better handle the Probable Maximum Flood (PMF), increase freeboard, and to facilitate releases for

consumptive use make-up water for downstream users as was previously approved by the Commission.

**6. Other.** Wastewater from the docket holder's public water supply system is conveyed to the Tamaqua Borough Authority Wastewater Treatment Plant most recently approved by DRBC Docket No. D-1990-060 CP-1 on January 16, 1991. The discharge from the WWTP to Little Schuylkill River is approved by PADEP NPDES Permit No. PA0027006. The treatment facility has adequate capacity to continue to receive wastewater from the existing project.

**7. Relationship to the Comprehensive Plan.** By Resolution 62-14, approved July 25, 1962, the DRBC incorporated the Still Creek and Owl Creek Reservoirs into its Comprehensive Plan. The use of the Still Creek and Owl Creek Reservoirs for augmentation water releases for LGS was first approved in DRBC Docket No. D-1969-210 CP (Revision 6). DRBC Docket No. D-1969-210 CP-15, approved June 12, 2019, continues the approval of the use by Constellation Energy Generation, LLC (formerly Exelon Generation Company, LLC) of the Still Creek and Owl Creek Reservoirs for its water needs under certain conditions specified in the docket.

## **B. FINDINGS**

### **1. Drought Contingency Plan and Safe Yield**

The docket holder has implemented a Drought Contingency Plan, which was approved by PADEP in 2002. This plan includes rationing steps that will be taken in the event that reservoir water levels reach certain elevations. The reservoir historically shows little impact (drawdown) during drought conditions. The Drought Contingency Plan does not require voluntary restrictions on non-essential water use until the reservoir water level drops to 1,170 feet.

A detailed investigation was performed in April 2000 by the Authority's Consulting Engineer (Gannett Fleming, Inc.) to determine the safe yield available from the Still Creek Reservoir. Based on the findings of that investigation, the safe yield of the Still Creek Reservoir is estimated to be 6.48 mgd. This determination was made using a computer model and hydrologic database developed to simulate operation of the reservoir system for a 75-year period (1919 to 1994), which included several droughts. The Still Creek Reservoir is large in comparison to its contributing watershed and is able to withstand prolonged droughts. The effect of this large volume is evident in the model results. Operating records verified the model-simulated results that indicate the reservoir level rarely falls below the spillway elevation under current system demand conditions.

A similar analysis was performed by Gannett Fleming, Inc. for the Owl Creek Reservoirs as a whole in June 2000. Based on the analysis, without minimum (conservation) release requirements, the Owl Creek system has an estimated safe yield of 1.5 mgd. With a conservation release flow of 0.3 cubic feet per second (cfs) or 0.194 mgd, the estimated 7Q-10 (seven day low flow over a recurrence interval of 10 years) for Owl Creek below the lower dam, the estimated safe yield of the reservoir is approximately 1.31 mgd.

**2. Reservoir Releases for Limerick Generating Station**

The docket holders' Still Creek and Owl Creek Reservoirs are augmentation sources used to supply portion of the consumptive and non-consumptive cooling water needs at LGS. During periods when the natural flow criteria for the Schuylkill River are not met, LGS is approved to use water released from Still Creek and Owl Creek Reservoirs to augment flow in the Schuylkill River for use by LGS. This docket continues the approval of releases of up to 36 mgd from Still Creek Reservoir and up to 8 mgd from Owl Creek Reservoir not to exceed a total of 43.3 mgd as described in Condition C.9. in the DECISION Section.

**3. Conservation Releases**

The docket holder's reservoirs are subject to conservation release requirements. The approximate drainage area of the Still Creek Watershed above the Still Creek Dam is 6.9 square miles. The estimated 7Q-10 flow just downstream of the dam is 0.64 cubic feet per second (cfs) or 0.414 million gallons per day (mgd). The docket holder is required to maintain a minimum flow in Still Creek downstream of the dam of 0.64 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass.

The approximate drainage area of the Owl Creek Watershed above the Lower Owl Creek Dam is 2.2 square miles. The estimated 7Q-10 flow just downstream of the dam is 0.30 cubic feet per second (cfs) or 0.194 mgd. The docket holder is required to maintain a minimum flow in Owl Creek downstream of the dam of 0.30 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass.

The conservation releases required by this docket shall not be counted as part of the augmentation releases for LGS. The augmentation release shall be in addition to the required conservation release from the reservoir.

The docket holder submitted an operations plan, dated March 1, 2013, describing the means and methodology used to maintain and monitor conservation releases to Still Creek and Owl Creek below the Still Creek and Lower Owl Creek Dams. The operations plan was approved with conditions by the DRBC Executive Director on June 5, 2013. The approval required that the daily conservation release data be submitted to the Commission in electronic format annually. The docket holder shall monitor and report the conservation release to Still Creek below the Still Creek Dam and Owl Creek below the Lower Owl Creek Dam, in accordance with Condition C.5. in the DECISION Section.

**4. 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 March 31, 2022.

**5. Surface Water Charges**

Certificate of Entitlement No. 311 previously issued to the docket holder was terminated on December 5, 2012 upon approval of DRBC Docket No. D-2010-028 CP-1. The docket holder's Still Creek Reservoir storage facility meets the conditions of Article 5.1.3.D and therefore is not subject to surface water charges to the Commission for withdrawals from the Still Creek Reservoir.

**6. Other Findings**

The Still Creek Reservoir is owned by the Tamaqua Area Water Authority (TAWA) and operated by Tamaqua Borough under an operation agreement with TAWA. The Owl Creek Reservoirs are owned and operated by Tamaqua Borough.

The DRBC estimates that the project withdrawals, used for the purpose of public water supply, result in a consumptive use of 10 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 (WC)* and *Water Quality Regulations (WQR)* 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-2010-028 CP-2 below, the project described in Docket No. D-2010-028 CP-1 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2010-028 CP-2; Docket No. D-2010-028 CP-1 is terminated and replaced by Docket No. D-2010-028 CP-2; and the project and the appurtenant facilities described in in Section A.4. (Design Criteria) and A.5. (Facilities) shall be continued in 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 surface and groundwater 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 (WC)*, 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 maintain a minimum flow in Still Creek downstream of the dam of 0.64 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass. The docket holder shall maintain a minimum flow in Owl Creek downstream of the dam of 0.30 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass. The conservation release required by this condition shall not be counted as part of the augmentation release for LGS. The augmentation release shall be in addition to the required conservation release from the reservoirs. The docket holder shall submit the daily conservation release volumes to the Commission in electronic format on an annual basis.

6. The docket holder shall implement to the satisfaction of the 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 PADEP, on the actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

7. The docket holder shall continue to implement its Water Conservation Plan as approved by PADEP and shall report to the PADEP on actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

**Other Conditions**

8. During any month, the withdrawal from Still Creek Reservoir for the purpose of public water supply shall not exceed 155 million gallons.

9. Combined releases from the Still Creek and Owl Creek Reservoirs to augment Schuylkill River flow for the purpose of the LGS consumptive use operations shall not exceed 43.3 mgd. This may include releases of up to 36 mgd from Still Creek Reservoir and up to 8 mgd from Owl Creek Reservoir. The conservation release required by Condition C.5. shall not be counted as part of the augmentation release for LGS.

10. In accordance with 18 CFR 401.8. of the Commission's Rules of Practice and Procedure (RPP), if at any future time the Project is changed substantially from the Project as described in this docket, it will be deemed to constitute a new and different project for the purposes of Article 11 of the Delaware River Basin Compact and will require Commission amendment of the Comprehensive Plan. In accordance with the same section of the RPP, whenever a change to the Project is made, the sponsor must advise the Executive Director, who will determine whether the change is deemed substantial for purposes of this provision.

11. Section 2.3.10 of the Commission's Rules of Practice and Procedure (18 C.F.R. 401.41), limiting the Commission's approval to three years in the absence of an expenditure of substantial funds by the project sponsor in reliance on the approval, is hereby waived for good cause shown in accordance with Section 2.9.3 (18 C.F.R. 401.123) of the same regulations. This approval shall expire on the expiration date set forth below unless prior thereto the docket holder has applied to the Commission to renew or extend this approval.

12. 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.



13. The surface water intake, reservoir and operational records shall be available at all times for inspection by the DRBC.

14. The surface water intake shall be operated at all times to comply with the requirements of the *WC* and *WQR* of the DRBC.

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

16. 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).

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

18. 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.

19. 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.

20. 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*.

21. 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).

22. 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).

23. 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).

24. 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 to ensure the proper control, use and management of the water resources of the Basin.

25. 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.

26. 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.

27. 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.

28. 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:**

**EXPIRATION DATE: September 10, 2032**

**DRAFT**