

DOCKET NO. D-2011-020 CP-1

DELAWARE RIVER BASIN COMMISSION

Located in the Drainage Area of Special Protection Waters

**Eagle Creek Hydro Power, LLC
Mongaup Falls and Rio Dam Hydro-Electric
Orange and Sullivan Counties, New York**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Gomez and Sullivan Engineers, P.C. (GSE) on behalf of Eagle Creek Hydro Power, LLC (Eagle Creek or docket holder) on December 9, 2011 (Application), for review of existing and proposed hydro-electric turbine projects associated with both the Mongaup Falls Dam and Rio Dam. The Federal Energy Regulatory Commission (FERC) issued Licenses Nos. P-9690 (Rio Dam) and P-10481 (Mongaup Falls Dam) on April 14, 1992. The docket holder has submitted an application to the FERC to modify FERC License No. P-9690 to include a new turbine on the minimal release valve from the Rio Dam.

The Application was reviewed for continuation of the previously approved hydro-electric turbines in the Comprehensive Plan, inclusion of the new hydro-electric turbine in the Comprehensive Plan, and approval of the new turbine under Section 3.8 of the *Delaware River Basin Compact*. The Orange County Planning Department and Sullivan County Division of Planning and Environmental Management have been notified of pending action. A public hearing on this project was held by the DRBC on May 10, 2012.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to approve the construction and operation of an 800 kilowatt (kW) hydro-electric turbine on the downstream side of the Rio Dam. The turbine is designed to utilize the minimum flow release water of 100 cubic feet per second (cfs) required to maintain river flow in the Mongaup River below the dam to produce energy for the grid. Additionally, this docket approves the transfer of ownership of the existing 4.0 megawatt (MW) Mongaup Falls Dam and 10 MW Rio Dam hydro-electric turbine systems from Mirant NY-Gen, LLC, (Mirant) which were approved by the Commission on May 10, 2007 via Docket No. D-2001-38 CP-1. Mirant will continue to operate the other portions of the Mongaup Reservoir System as approved in their aforementioned docket.

2. **Location.** The Rio Dam is located at River Mile 261.1 – 4.6 (Delaware River – Mongaup River), in the Town of Deerpark, New York on the border of Sullivan and Orange Counties. The Mongaup Falls Dam is located at River Mile 261.1 – 4.6 – 3.37 – 1.29 (Delaware River – Mongaup River – Rio Reservoir – Mongaup River), in the Town of Lumberland, Sullivan County, New York. Both dams and subsequent hydro-electric projects are located within the drainage area to the section of the non-tidal Delaware River known as the Upper Delaware, which is designated as Special Protection Waters (SPW). Specific location information has been withheld for security reasons.

3. **Area Served.** Energy produced by the hydro-electric turbines supplies the regional grid where the dams are located. The reservoirs themselves provide recreational uses and water storage to supplement stream flow in the main-stem Delaware River. For the purpose of defining the Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

4. **Physical Features.**

a. **Reservoir and Dam Descriptions.** The Mongaup Reservoir System was constructed in the 1920s and consists of the Toronto, Cliff Lake, Swinging Bridge, Mongaup Falls, and Rio Reservoirs. The reservoir system has an overall capacity of 15.38 billion gallons, most of which is stored in the Toronto and Swinging Bridge Reservoirs. The reservoir system was designed to incorporate hydro-electric generation and as such turbines were installed in downstream powerhouses of many of the dams.

The Mongaup Falls Reservoir is approximately 2.6 miles long and 918 feet wide at its max. The Mongaup Falls Dam is approximately 40 feet high and 156 feet long and consists of a concrete spillway its entire length. Water stored in the reservoir above elevation 929.5 ft. may be used for drought releases if directed by the Commission. This volume is approximately 0.21 billion gallons.

The Rio Reservoir is approximately 3.56 miles long and 1,836 feet wide at its max. The Dam is approximately 1,500 feet long. The concrete spillway is 264 feet long and 101 feet high. A roadway is constructed that connects either side of the dam. This road is elevated above the spillway and has concrete barriers on either side for safety purposes. Water stored in the reservoir above elevation 810 ft. may be used for drought releases if directed by the Commission. This volume is approximately 0.6 billion gallons.

b. **Existing Powerhouse Descriptions.** The Mongaup Falls Powerhouse (MFP) is located 2,650 feet downstream of the dam. This MFP is supplied water by an above-ground, eight foot (8') diameter penstock pipe and is equipped with four (4) turbines that are designed to handle 155 cfs of water with 110 feet of head to produce 1.0 MW of electricity each.

The existing Rio Powerhouse (RP) is located 7,000 feet downstream of the dam. The RP is supplied water by an above-ground, eleven foot (11') diameter penstock pipe and is

equipped with two (2) turbines that are designed to handle 435 cfs of water with 170 feet of head to produce 5.0 MW of electricity each.

c. Proposed Powerhouse Description. During the FERC licensing process in the early 1990s, the New York State Department of Environmental Conservation (NYSDEC) imposed minimum conservation release requirements from each reservoir via the 401 Water Quality Certification process (a complete breakdown can be located in Docket No. D-2001-38 CP-1). The minimal release flows from the Mongaup Falls and Rio Reservoirs are 70 cfs and 100 cfs, respectively. To accommodate these minimal release flows a bypass valve and pipe were installed on each respective penstock from the dam to convey this flow to waters just below each spillway. The Rio Dam bypass valve was constructed in 1996.

The docket holder has applied to FERC for a non-capacity related amendment to FERC License No. P-9690 due to the fact that hydraulic capacity will improve less than 15% and the proposed capacity increase is less than 2.0 MW. This application is for the construction and operation of an 800 kW turbine located in a proposed powerhouse below the Rio Dam.

Upon approval of this docket, the docket holder will construct a second Rio Powerhouse (new Powerhouse) approximately 300' downstream of the dam. A 48 inch diameter high density polyethylene (HDPE) penstock will tee off of the existing steel penstock to convey 100 cfs of water through the proposed turbine in order to generate electricity. The new Powerhouse will be constructed with reinforced concrete and will house the turbine/generator unit. The docket holder will also construct a new access road and electrical conveyance line. The electrical line will follow the existing steel penstock approximately 7,000 feet to the original RP where the distribution capabilities already exist. The docket holder is currently determining whether the line may be directionally drilled to limit disturbances. The docket holder is required to submit final plans and specifications for review and approval by the Executive Director prior to construction starting (See DECISION Condition II.f.).

The existing bypass valve will remain in place so that if there is a problem at the new Powerhouse and/or maintenance work needs to be performed in the future, minimal flow releases will not be affected. This bypass valve may also be used should DO in the Mongaup River drop significantly. Also, after the minimal flow passes through the new turbine it will be discharged to the Mongaup River adjacent to the new Powerhouse. Due to grading and the aquatic habitat Commission staff do not believe that this move will adversely affect aquatic life in-stream and agree with the docket holder that flows will remain unchanged.

e. Cost. The overall cost of the new Powerhouse project and its appurtenances is estimated to be \$4,100,000.

f. Relationship to the Comprehensive Plan. The Mongaup Reservoir System was included in the Comprehensive Plan in February 1972. Docket No. D-2001-38 CP-1 was approved on May 10, 2007 and continued approval of the reservoirs while adding the hydro-electric projects to the Comprehensive Plan. This docket will continue approval of the reservoir,

dam and hydro-electric turbines associated with both Mongaup Falls and Rio systems. It will also add the new Powerhouse associated with the Rio Dam into the Comprehensive Plan.

B. FINDINGS

The purpose of this docket is to approve the construction and operation of an 800 kW hydro-electric turbine on the downstream side of the Rio Dam. The turbine is designed to utilize the minimum flow release water of 100 cfs required to maintain river flow in the Mongaup River below the dam to produce energy for the grid. Additionally, this docket approves the transfer of ownership of the existing 4.0 MW Mongaup Falls Dam and 10 MW Rio Dam hydro-electric turbine systems from Mirant which were approved by the Commission on May 10, 2007 via Docket No. D-2001-38 CP-1. Mirant will continue to operate the other portions of the Mongaup Reservoir System as approved in their aforementioned docket.

In 1992, the DRBC adopted SPW requirements, as part of the DRBC *Water Quality Regulations (WQR)*, designed to protect existing high water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap was classified by the DRBC as SPW. This stretch includes the sections of the river federally designated as "Wild and Scenic" in 1978 -- the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area -- as well as an eight-mile reach between Milrift and Milford, Pennsylvania which is not federally designated. The SPW regulations apply to this 120-mile stretch of the river and its drainage area.

On July 16, 2008, the DRBC approved amendments to its *WQR* that provide increased protection for waters that the Commission classifies as SPW. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for SPW designation and clarity on definitions and terms were updated for the entire program.

Article 3.10.3A.2.e. of the Commission's *WQR*, states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan (NPSPCP) that controls the new or increased non-point source loads generated within the portion of the applicant's service area which is also located within the drainage area of SPW. The service area of the docket holder is located within in the drainage area of SPW. Since this project does entail additional construction and expansion of facilities/service area (i.e., there are potentially new or increased non-point source loads associated with this approval), the NPSPCP requirement is applicable at this time. Accordingly, DECISION Condition II.p. has been included in this docket.

Commission staff have determined that obtaining in-stream data below the Mongaup Reservoir System is an important step towards maintaining water quality in one of the basin's SPW designated watersheds. The United States Geologic Survey (USGS) owns a gaging station

on the Mongaup River near Mongaup, New York (USGS Gage Reference No. 01433500) that has not been in operation since 1995. This gage is just downstream of where the existing RP discharges. With this gage in operation, real time data could be observed by the DRBC as well as the public to monitor in-stream flow and water quality. DECISION Condition II.e. requires the docket holder to establish a gaging station to monitor gage height, flow, dissolved oxygen (DO), pH, Temperature, and Conductivity in real time and make that data accessible by the DRBC and public via the web by May 1, 2013. It also provides that the docket holder may either contract with the USGS through the DRBC to provide adequate funding for the installation, refurbishing, updating, and maintenance of USGS gaging station No. 01433500 to be used to monitor these parameters as an alternative to the docket holder installing, monitoring, and maintaining its own gage station. Should the docket holder decide to install its own gage, the location should be on the Mongaup River downstream of where the RP discharges to capture all flow results from the operation of the Rio Reservoir.

DECISION Condition II.d. continues the requirement that the docket holder maintain minimal flow releases from the Mongaup Falls and Rio Reservoirs of at least 70 cfs and 100 cfs, respectively. This requirement remains in place to ensure downstream water flows continue to support aquatic life and aid in the Montague flow target.

DECISION Condition II.t. of this docket requires the docket holder to submit an Operating Plan to the Executive Director for review and approval for both the Mongaup Falls and Rio Reservoirs/Dams/Hydropower Projects within six (6) months of approval of this docket (by November 10, 2012). The Operating Plan should take into account the new Powerhouse and should be in conformance with the Commission's *Water Code* and alternative drought operating plans. Questions concerning what needs to be incorporated into the Operating Plan can be directed to the Commission's Operations Branch at (609) 883-9500, ext. 232.

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.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

C. DECISION

I. Effective on the approval date for Docket No. D-2011-020 CP-1 below:

a. The Mongaup Falls and Rio Reservoir dam and hydro-electric facilities described in Docket No. D-2001-38 CP-1 are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2011-020 CP-1; and

b. The project and the appurtenant facilities described in the Section A "Physical Features" of this docket shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section A “Physical Features” of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the FERC and NYSDEC, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s.

b. The Mongaup Falls and Rio Reservoirs along with their respective dams and powerhouses shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the Commission’s *WQR* and *Water Code*.

d. Minimal flow releases of 70 cfs and 100 cfs shall be maintained at the Mongaup Falls and Rio Reservoirs, respectively.

e. By May 1, 2013, the docket holder must install a gaging station to monitor and record gage height, flow, dissolved oxygen (DO), pH, Temperature, and Conductivity in real time accessible by the DRBC and public via the web on the Mongaup River below the existing RP and above the confluence with the Delaware River. The docket holder may also meet this requirement by contracting with the USGS through the DRBC to provide adequate funding for the installation, refurbishing, updating, and maintenance of the USGS gaging station near Mongaup, New York (USGS Gauge Reference No. 01433500) as described in the FINDINGS Section of this docket.

f. The docket holder is required to submit final plans and specifications related to the new Powerhouse project for review and approval by the Executive Director prior to construction starting.

g. 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.

h. The discharge of water from each powerhouse shall not increase the ambient temperatures of the receiving waters by more than 5°F until stream temperatures reach 50°F, nor by more than 2°F when stream temperatures are between 50°F and 58°F. (Trout Waters only)

i. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

j. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date.

k. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction

Completion Statement (“Statement”) signed by the docket holder’s professional engineer for the project. The Statement must (1) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; (2) report the project’s final construction cost as such cost is defined by the project review fee schedule in effect at the time the application was made; and (3) indicate the date on which the project was (or is to be) placed in operation. In the event that the final project cost exceeds the estimated cost used by the docket holder to calculate the DRBC project review fee, the statement must also include (4) the amount of any outstanding balance owed for DRBC review. The outstanding balance will equal the difference between the fee paid to the Commission and the fee calculated on the basis of the project’s final cost, using the formula and definition of “project cost” set forth in the DRBC’s project review fee schedule in effect at the time application was made.

l. The new Powerhouse and related piping, roadway, and transmission lines shall be completed within three years of approval of this docket or the docket holder shall demonstrate to the Executive Director that it has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval. If this scope of work has not been completed within three years of Docket Approval and the docket holder does not submit a cost analysis demonstrating substantial funds have been expended, Commission approval of the new Powerhouse project shall expire. If this occurs, the docket holder shall file a new application with the Commission and receive Commission approval prior to initiating construction of the new Rio Powerhouse project.

m. The docket holder is permitted to provide power to the grid and utilize water storage in each reservoir for recreational use/conservation release as defined in the “Area Served” Section of this docket.

n. The docket holder shall discharge water from the turbines/generators in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

o. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

p. Prior to the start of construction of the new Powerhouse project, the docket holder shall submit to and have approved by the Executive Director of the DRBC, a NPSPCP in accordance with Article 3.10.3A.2.e.1). and 2). of the Commission’s *WQR* as described in the FINDINGS Section of this docket.

q. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. 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 this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

r. 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.

s. 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.

t. Within six (6) months of approval of this docket (by November 10, 2012) the docket holder shall submit an Operating Plan to the Executive Director for review and approval for both the Mongaup Falls and Rio Reservoirs/Dams/Hydropower Projects. The Operating Plan should take into account the new Powerhouse and should be in conformance with the Commission's *Water Code* and alternative drought operating plans.

BY THE COMMISSION

DATE APPROVED: May 10, 2012

EXPIRATION DATE: April 14, 2022