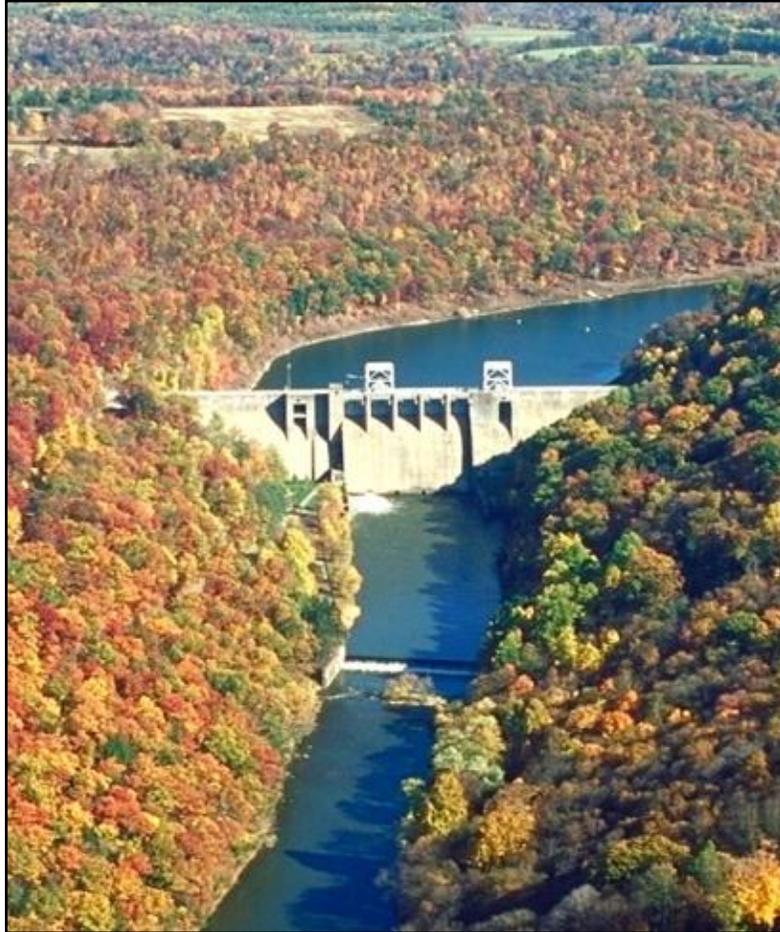


Mahoning Creek Hydroelectric Project Description



Prepared for the

Low-Impact Hydropower Institute

Submitted by

Mahoning Creek Hydroelectric Company, LLC

Low Impact Hydropower Institute Certification Questionnaire
Mahoning Creek Hydroelectric Project
Description of Facility

A. Executive summary of project

On March 4th 2011, the Federal Energy Regulatory Commission (hereafter referred to as “the Commission” or “FERC”) issued an order granting an original license to the construct, operate and maintain the proposed 6.0 MW Mahoning Creek Hydro Electric Project No. 12555 (hereafter referred to as “Mahoning Creek” or “the Project”) to the Mahoning Creek Hydroelectric Company, LLC (hereafter referred to as “MCHC”). The Project includes the construction of a new powerhouse containing 4-MW and 2-MW vertical-shaft generating units. Mahoning Creek will annually produce 20,000 MWh, which is enough to provide clean electricity to over 1,800 homes for the lifetime of the project.

The existing Mahoning dam and reservoir were constructed by the US Army Corps of Engineers (“USACE”) beginning in 1939 and became operational in 1941. The dam was designed with two conduits built into the south abutment of the dam for future hydropower development. The USACE project consists of: a 162-foot-high, 926-foot-long dam with 192-foot-long spillway section equipped with five 29-foot-high, 30-foot-long vertical lift gates (i.e., sluice gates), impounding a 5-mile-long, 280-acre reservoir with a normal pool elevation of 1,077 feet mean sea level (msl); and a 192-foot-wide, 950-foot-long stilling basin regulated by a 180-foot-long flat-crested stilling basin weir and located downstream of the dam. The Mahoning dam is one of 16 flood control projects in the USACE Pittsburgh District used to provide flood protection to the lower Allegheny River Valley and the upper Ohio River.

USACE operates the dam in a modified run-of-river mode to augment flow during dry periods to maintain downstream water quality and as water supply for domestic, industrial, and recreational uses. The USACE maintains the summer pool elevation at 1,100 feet msl \pm 0.5 foot, and during the fall, the pool level is lowered to elevation 1,075 feet msl to provide flood storage capacity. We are currently in the process of writing an Adaptive Management Plan (AMP) with USACE that will dictate the minimum flows released through the USACE bypass. Depending on the time of year the minimum discharge will range from 30 cfs – 60 cfs to ensure we are maintaining existing water quality conditions.

B. Location of the project

The 6.0-MW project will be connected to the USACE Mahoning dam, which is located on Mahoning Creek in Armstrong County, Pennsylvania. The dam is located 21.6 miles upstream from the junction of the creek and the Allegheny River. The Project will occupy approximately 1.0 acre (43,560 square feet) of federal land under the jurisdiction of USACE. The Project’s coordinates are 40° 55’ 18.24”N 79° 16’ 38.14”W.

C. Historical and proposed use of the site¹

The Mahoning dam was authorized by Congress through the Flood Control Acts of 1936 and 1938. The dam is one of 16 flood control projects in the USACE Pittsburgh District used to provide flood protection to the lower Allegheny River Valley and the upper Ohio River. Construction of the dam was completed in 1941 and during construction two conduits were built into the south abutment for future hydropower development.

Currently, the dam's primary use is for flood control and storm water management; however, the dam and the area surrounding it are often used for recreational activities, such as boating, fishing, hiking, hunting, trapping, and picnicking.

The proposed hydroelectric plant will generate clean, carbon-free electricity in accordance with the current dam operation established by USACE. Therefore, the Project will have no negative impact on the current uses of the dam, the planned uses of the dam, or the surrounding and downstream environment. The Mahoning Creek team has worked closely with USACE, FERC, Pennsylvania Department of Environmental Protection, and state and local authorities to ensure that the Mahoning Creek project will maintain existing water quality conditions throughout construction and operation of the project.

D. Interconnection, Net Metering, and/or Power Purchase Agreements in Place

The Mahoning Creek Project has received a 50-year license from FERC that authorizes the operation of the power plant. Within this license is the approval from all relevant state and federal agencies as well as approval from primary and secondary stakeholders.

Mahoning Creek has executed an interconnection agreement with West Penn Power, a FirstEnergy Company. The interconnection agreement was executed in May 2012. Mahoning Creek has also executed a Wholesale Market Participation Agreement (WMPA) with PJM, the regional transmission organization that serves all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. The WMPA was executed in January 2012.

E. Project Maps

See Supplemental Materials for project maps.

¹¹ <http://www.lrp.usace.army.mil/rec/lakes/mahoning.htm>