FEDERAL ENERGY REGULATORY COMMISSION
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OFFICE OF ENERGY PROJECTS

Project No. 13739-002—Pennsylvania
Braddock Locks and Dam
Hydroelectric Project
Lock+ Hydro Friends Fund XLII, LLC

Jeffrey Benedict, P.E.
Hydropower Coordinator
Pittsburgh District, Corps of Engineers
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Reference: Response to Additional Study Requests

Dear Mr. Benedict:

In response to the Commission's notice of tendering of application, issued September 28, 2012, for the proposed Braddock Locks and Dam Hydroelectric Project, the Pittsburgh District, U.S. Army Corps of Engineers (Corps) provided comments and additional study requests on November 16, 2012. The Corps requested that Lock+ Hydro Friends Fund XLII, LLC (Hydro Friends Fund) conduct the following studies: (1) a modeling study to determine the potential effects of the proposed project on water quality; (2) real-time, continuous monitoring of water quality at the project to establish water quality conditions at the proposed project; and (3) an aquatic habitat assessment and instream flow incremental methodology (IFIM) study to determine appropriate flow releases at the project.

We reviewed the Corps' additional study requests for acceptability based on standards set forth in section 4.32(b)(7) of the Commission's regulations. We require additional studies only when we determined that such studies would provide information necessary to form an adequate, factual basis for a complete analysis of the project on its merits. We discuss the Corps' requests below.

Background

Subsequent to the Corps' Additional Study Requests, on December 7, 2012, Hydro Friends Fund filed its Water Quality Study Report, which included the results of its water quality modeling and monitoring studies. On December 17, 2012, Hydro Friends Fund

filed its response to the Corps' additional study requests, referencing its recently-filed report, and addressing specific elements of the Corps's Additional Study Requests. On January 7, 2013, Hydro Friends Fund and the Corps discussed the Water Quality Study Report and whether it satisfied the Corps' information needs. In a letter filed with the Commission on January 14, 2013, the Corps stated that it was reconfirming its request for all three studies.

Water Quality Modeling Study

The Corps requested a water quality modeling study to: 1) define pre-project conditions; 2) predict the effects of hydropower generation on water quality with and without Dam 3 at Elizabeth, Pennsylvania;[1] and 3) assess the cumulative effects of "stacked hydropower" on its entire navigation system.

The Corps reviewed Hydro Friends Fund's water quality modeling study and stated it did not capture anticipated future conditions resulting from the Lower Mon Project, including pool level changes and the removal of Locks and Dam 3, or potential installation of hydropower at all locks and dams on the Monongahela, Allegheny, and Ohio rivers.

As a general rule, the Commission does not require applicants to conduct studies to identify potential indirect or cumulative effects arising from other, non-project activities, particularly those that may or may not occur at some point in the future. This is because any such effects are so speculative that any such analysis is not likely to contribute in a meaningful way to the development of license conditions. As such, we are not requesting the applicant to perform additional water quality modeling.

Please note that, in our environmental review of licensing proposals under the National Environmental Policy Act, we consider direct, indirect, and cumulative effects. We do this using existing information, some of which was developed by the applicant

[1] The Lower Monongahela Locks and Dams 2, 3 & 4 Project (Lower Mon Project) was authorized by Congress in 1992 to address the severely deteriorated conditions of the Corps' three navigation facilities on the Lower Monongahela River. The project was initially scheduled for completion in 2004 at a cost of $750 million. Due to federal budget constraints, the current estimate for completion of the project is 2030, with a total projected cost of $1.7 billion. At present, funding for completion of the project has not been approved.

during its relicensing studies. With respect to indirect and cumulative effects, we only consider reasonably foreseeable future events. However, Commission licenses include "re-opener" provisions that would allow appropriate study and mitigation of future events that were not reasonably foreseeable during licensing.

Real-time Continuous Water Quality Monitoring

The Corps' requested water quality monitoring would consist of measuring water temperature, dissolved oxygen (DO) concentration, and total dissolved gas concentrations upstream and downstream of Braddock Dam before and during construction, and throughout the duration of the license for the project. Hydro Friends Fund stated that the water quality monitoring (including continuous real-time monitoring) it conducted during the summer of 2012 showed that DO concentrations were well above minimum state standards (4.0 milligrams per liter (mg/L) instantaneous, 5.0 mg/L daily average), and most measurements were well above 7.0 mg/L.

We find that Hydro Friends Fund's water quality sampling, in conjunction with the abundant existing water quality data contained in its Pre-Application Document (PAD) is adequate to support the Commission's environmental review of the proposed project. As a result, we are not requesting the applicant to perform the requested additional monitoring.

Aquatic Habitat/IFIM Study

The Corps requested an aquatic habitat and IFIM study to determine an appropriate conservation flow from its water quality gate (Gate 1) and appropriate flow and stream depths necessary to support the existing fishery. The Corps stated that this study is needed to assess water quality, aquatic life, and habitat impacts related to the location of the proposed hydropower outfall, which may create backwater currents, cause in-river scour and/or erosion, or degrade shallow water habitat. The Corps requested that the applicant collect cross-sectional flow and river depth data throughout the Emsworth Pool under various release scenarios.

Hydro Friends Fund responded that, as part of its water quality study, it collected flow and river depth data using an Acoustic Doppler Current Profiler (ADCP) to measure flow velocities and directions under both the baseline and proposed operating conditions at multiple cross-sectional transects. It stated that the study showed that the proposed project would result in very limited changes to flow distribution within the immediate tailrace and that there is no difference in velocity patterns downstream from the end of the lock wall.

The applicant's study efforts have addressed the question of how the proposed project would affect flow velocities and direction, as well as habitat, downstream of the dam. The proposed project would operate under the Corps' direction, in a run-of-release mode, without altering the quantity of the Corps' releases at the dam. The question regarding the appropriate conservation flow(s) for the Corps to release though its water quality gate (Gate 1) would be a matter for the Corps to determine. Therefore, we are not requesting the applicant to perform the additional study.

Please note that nothing in this determination is intended, in any way, to limit the Corps' proper exercise of its independent statutory authority to require additional studies.

If you have any questions, please contact John Mudre at (202) 502-8902.

Sincerely,

John B. Smith, Chief
Mid-Atlantic Branch
Division of Hydropower Licensing

cc: Mark R. Stover
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