

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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April 25, 2018

Secretary Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Jarvis Hydroelectric Project (P-3211)
New York State Department of Environmental Conservation
Comments on Revised Study Plan

Dear Secretary Bose:

The New York State Department of Environmental Conservation (NYSDEC) has reviewed the New York Power Authority's (NYPA) April 11, 2018, Revised Study Plan (RSP) for the Jarvis Hydroelectric Project on the West Canada Creek in Oneida and Herkimer counties, New York, and offers the following comments.

Revised Studies

2.1 Hinckley Reservoir Bathymetric Survey

Updates to the bathymetric survey in the RSP included revisions to the survey transect mapping. This study will help to establish the reservoir's potential volume, updating data dating back to the construction of the reservoir. The Federal Energy Regulatory Commission (FERC) and NYPA agree that the new survey will fill data gaps involving the physical characteristics of the reservoir and that there is a project nexus associated with the bathymetric study (Section 2.1.6 of RSP). If the physical characteristics of the reservoir have a nexus with the project facility it is reasonable to consider that water quality and the biota found in the reservoir, i.e. macroinvertebrates/mussels, share that nexus. The Jarvis Area of Potential Effect (APE) effectively includes the entire surface area of the reservoir (See figure 3.5.1-1). The proposed bathymetric survey area does not include the extreme northeast area of the APE. This northeastern area of Hinckley Reservoir should be included in the bathymetric survey.

2.4 Recreation and Public Access

Pursuant to the RSP, the Recreation and Public Access study will only evaluate usage of NYPA owned properties. However, the APE of the Jarvis Facility encompasses the entire surface area of the reservoir; therefore, impacts to recreation and public access within the entire APE should be studied.

General Comments

Effects of Jarvis Peaking Operations on Water Level Fluctuations

In the RSP, NYPA reiterates their position that Jarvis peaking operations have minimal to no impact on water level fluctuations within Hinckley Reservoir. However, information provided in the RSP does not support that conclusion. Figures 3.1.2-1 and 3.2.1-2 in the RSP provide a Jarvis Peaking Analysis for the month of June 2008 and the day of June 8, 2008, respectively. In both figures, the drop in Hinckley Reservoir water levels does not correlate with the peaking outflow indicated on the figures. This is particularly apparent on Figure 3.1.2-2 in which the surface water elevation of Hinckley Reservoir drops 0.11 foot during the initial ramping up of the Jarvis facility by approximately 10 cfs of discharge, but the additional 110 cfs of discharge for a period of three (3) hours has no effect. A review of the West Canada Creeks USGS gauge data near Wilmurt, NY, for that day does not reflect an increase in flow coming into the reservoir that would account for and supplement the discharge at the Jarvis facility. This lack of correlation supports NYSDEC's position that the current data is insufficient to effectively evaluate the effects of peaking on the water levels within Hinckley Reservoir. Any decrease or increase in water surface elevation can result in impacts and it is incumbent on NYPA to identify any negative, or positive, effects that a change in water surface elevation would have on Hinckley Reservoir and its associated natural resources and user groups.

Base Flow Study

The base flow study conducted by Ichthyological Associates, Inc. (IA) during August and September of 1980 as part of the initial facility application included only study reaches located downstream of the Trenton Falls facility (0.3 miles, 1.6 miles, and 23.3 miles). Furthermore, this study only evaluated the relationship between base flow and available habitat for two sportfish species, brown trout (*Salmo trutta*) and smallmouth bass (*Micropterus dolomieu*). A more comprehensive examination of the habitat within the watershed is necessary and is the reason why the NYSDEC is requesting a Delphi Study be completed. The base flow study should identify how different known base flows impact fish community assemblage and associated habitat needs, as well as available aquatic macroinvertebrate and freshwater mussel habitat, in the West Canada Creek downstream of the Trenton Falls hydroelectric facility.

In 2008, the FERC approved a comprehensive base flow study approach in the Natural Dam Hydroelectric Project (P-2851) on the Oswegatchie River. In that project, the licensee conducted a Delphi Study in the by-pass reach of the hydroelectric facility. As a result, the NYSDEC and other stakeholders identified smallmouth bass, walleye (*Sander vitreus*), blacknose dace (*Rhinichthys obtusus*), fallfish (*Semotilus corporalis*), channel catfish (*Ictalurus punctatus*) and white sucker (*Catostomus commersonii*) as the dominant members of the fish community based on data gathered through existing sources and the applicant's completion of a baseline fisheries survey. The NYSDEC simultaneously assessed aquatic macroinvertebrate habitat during the Delphi Study for Natural Dam.

In addition to the deficient habitat study, the 1980 NYPA West Canada Creek base flow study misrepresented the actual flow downstream of the weir at the Ninemile Feeder Canal. The

NYSDEC questions the accuracy of the discharge from the then Niagara Mohawk Power Corporation's Trenton Falls facility, as well as the assumption that four different discharge measuring instruments in the stream were calibrated with each other. The applicant and the consultant agreed that the release of 160 cfs of water downstream to the West Canada Creek was the lowest discharge allowable without negatively effecting habitat in the stream. This determination was based on the release of 160 cfs from the Trenton Falls facility, plus volume required by Canals through the Ninemile Feeder Canal, and did not account for the additional 16.7 cfs of water contributed to the stream through leakage in the then wooden penstock. The wooden penstock has since been replaced with a fiberglass penstock. After replacement of the penstock, Brookfield Power continued to release 160 cfs of water from the Trenton Falls facility. Local residents immediately saw a difference in the flow of the West Canada Creek and voiced their concern to NYSDEC staff. In an effort to pacify the public, Brookfield began releasing 200 cfs as the base flow and complaints to the NYSDEC stopped. The base flow downstream of the Ninemile Feeder Canal continues to be an assumed value of 200 cfs. Calibration of NYPA and Brookfield equipment, along with identifying the proper base flow downstream of the Canal, need to be completed to determine the effects the Jarvis Hydroelectric Project and the West Canada Hydroelectric Project have on the West Canada Creek.

In the RSP, NYPA maintains that "Impacts associated with instream flows downstream of the Prospect and Trenton Falls developments would be analyzed in the relicensing of the West Canada Creek Project and do not have any nexus to the Jarvis Project operations." However, in the 1981 licensing application for the Jarvis Project, which ultimately resulted in an approval to construct the facility, NYPA indicated that "The net effect of the proposed development, in addition to generating approximately 25,400MW per year, would be to shift control of the West Canada Creek discharges from Prospect Dam back to Hinckley Dam." (Section B-1) Furthermore, in Exhibit B (Plant Operation and Resource Utilization), on page B-1 in Section B.1 (Present Operation, Hinckley Reservoir), NYPA states, "Hinckley Reservoir provides storage and controls the flow to NMPC's Prospect and Trenton Falls Generating Stations (FERC No. 2701)." Finally, Section E.2.3 of the initial application states that "Tandem operation the Jarvis hydroelectric facility would control flows to the Prospect and Trenton Falls hydroelectric facilities and in turn those flows released to the West Canada Creek below the Canal Corporations Ninemile Feeder." NYPA conducted a base flow study downstream of the Trenton Falls facility during the initial licensing of the Jarvis Hydroelectric Project. Yet, during the current renewal, NYPA has maintained that there is no nexus between the Jarvis facility and base flow. At the very least, these contradictory assertions support NYSDEC's request that impacts associated with instream flow downstream of the Prospect or Trenton falls developments are inconclusive and need to be studied.

Assessment of Fish Entrainment and Turbine Passage Survival

The DEC is amenable to NYPA's proposed literature-based study to evaluate the potential for fish entrainment and associated turbine passage mortality. Once complete, the NYSDEC will review the literature-based study and use the results of the study to inform further discussion, if needed. The NYSDEC reserves the right to request a full fish passage study at that time.

Fish Surveys

The NYSDEC continues to stress the need for additional fish studies to identify the current assemblage of species inhabiting Hinckley Reservoir so that species-specific concerns associated with operations may be identified, minimized, or altogether avoided. The fisheries information presented by NYPA in the PAD is based on limited data recorded by NYSDEC during irregular fish surveys conducted between 1988 and 2014. Since NYSDEC fish surveys typically have specific goals with limited targets, large portions of the fish assemblage may be left out of each study. Furthermore, each type of sampling gear has limitations and there is no single fish sampling method that may be employed to detect every species of fish, and their associated life cycle stage, within a waterway. Building a comprehensive data set of the fish community within a waterbody requires the application of several survey methods using multiple detection tools over a known time period. Therefore, the NYSDEC does not find a compilation of historic fish survey data to be sufficient for purposes of identifying the current fishery resource to the degree required for the determining potential impacts of the project.

Between 1989 and 2014, NYSDEC conducted fish surveys within Hinckley Reservoir using techniques limited to gill netting and electrofishing, methods which are insufficient for the detection of all species inhabiting the reservoir and their respective life cycle stage. Rainbow trout have been stocked in Hinckley Reservoir since 1994. However, to date, no rainbow trout have been collected by NYSDEC surveys, illustrating that fish known to be present have remained undetected. The NYSDEC's first detection of black crappie occurred in 2014 (PAD, page 101, Table 4.4.2-2). However, black crappie may have been present for some time prior to 2014 and merely not collected, or they may have been recently introduced into Hinckley Reservoir. Additionally, it is noteworthy that most of these collections were limited to near shore (littoral) areas leaving the limnetic zone and other habitat types unsampled.

The NYSDEC conducted similar fish surveys in West Canada Creek upstream and downstream of the Project between 1988 and 2010 with the most recent survey conducted eight years ago in a tributary to West Canada Creek. Sampling immediately below the dam in Prospect Pond occurred in October of 2009 with the placement of four (4) gill nets set at depths ranging from 15 feet to 37.5 feet. The results of the sampling event were three (3) fish in total. Clearly this single sampling effort yielding limited data is insufficient for assessing the fish community of Prospect Pond.

Since DEC fish surveys of the past had differing objectives and employed variable methods, compiling data based on their results does not yield a sufficient body of data that defines the current fishery resource for the purposes of identifying potential fish impacts associated with the Jarvis Project. Due to the variety of fish habitats found within the reservoir and the West Canada Creek, a comprehensive survey of fish species and the usage of said habitats during different life cycle stages, will require additional sampling methods including, but not be limited to, trap netting, minnow traps, seining, and angling.

Macroinvertebrate and Freshwater Mussel Study

NYPA continues to maintain that the Jarvis facility has no project nexus to macroinvertebrates and mussels and therefore a study to determine presence and assemblage of macroinvertebrates and mussels is not warranted. The NYSDEC respectfully disagrees with NYPA's position and maintains that there is a direct nexus between the operation of the Jarvis facility and potential effects to macroinvertebrates, including freshwater mussels within Hinckley Reservoir. FERC and NYPA agree that there is need for a bathymetric survey as it will fill data gaps associated with the physical characteristics of Hinckley Reservoir. If the physical characteristics of Hinckley Reservoir have a nexus with the Jarvis facility then the biota living within Hinckley Reservoir have the same nexus.

Water Quality Study

Water quality within Hinckley Reservoir should be recorded in the same manner as water quality will be recorded in the tailwater of Jarvis' discharge. Installation of a data logger in Hinckley Reservoir at or near the facilities intake will allow for comparison of upstream and downstream water quality. There is no true way of determining what impact the facility is having on discharged water without knowing what the quality of the water is entering the facility. The installation of another data logger at the intake would also allow monitoring of reservoir stratification and the effects the intake may have on mixing water layers during different intake rates.

Currently NYPA is proposing one year of water quality sampling in the tailrace. The NYSDEC believes that at a minimum, two (2) years of data collection should be completed. This will allow for variables such as drought or low water level conditions to potentially be accounted for in the data set.

Conclusion

NYSDEC continues to advocate for the studies previously identified in letters dated, October 17, 2017, and March 12, 2018. The requested studies are necessary for the NYSDEC to understand the effects that the Jarvis hydroelectric facility has on natural resources upstream, downstream and in the project area. In addition, the requested information is necessary for the NYSDEC, as the 401-water quality certifying agency, to evaluate whether the Jarvis Hydroelectric Project will meet New York State water quality standards.

The NYSDEC agrees with the comments and recommendations submitted by the United States Fish and Wildlife Service (USFWS) by letter dated April 20, 2018. Likewise, the NYSDEC also agrees with comments and recommendations submitted to FERC by the New York State Council of Trout Unlimited by letter dated April 21, 2018.

Thank you for the opportunity to comment on the RSP. If you have any questions or desire additional information, please contact me at (315) 793-2740.

Sincerely,

A handwritten signature in blue ink that reads "Todd J. Phillips".

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