FEDERAL ENERGY REGULATORY COMMISSION
Washington D.C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 10856-103 -- Michigan
Au Train Hydroelectric Project
UP Hydro, LLC

March 23, 2016

Mr. Jason Kreuscher
Vice President, Operations
Renewable World Energies, LLC
100 S. State Street
P.O. Box 264
Neshkoro, WI 54960

Subject: February 14 and February 16-18, 2016 minimum flow deviations

Dear Mr. Kreuscher:

This is in response to your report filed with the Federal Energy Regulatory Commission (Commission) on February 23, 2016, regarding a deviation from the minimum flow requirement specified in Article 401 and the siphon requirements specified in your Operations and Compliance Plan[1] required by Article 402 of the Au Train Hydroelectric Project license.[2]

License Requirements

Article 401 of your license, in part, requires you to operate the project in a modified run-of-river mode, with a steady drawdown of the reservoir in the winter and reservoir drawdowns as necessary at other times of the year to provide a continuous minimum powerhouse discharge of 50 cubic feet per second (cfs) for the protection and enhancement of fish and wildlife resources in the Au Train River. You may temporarily modify the minimum flow, if required by operating emergencies beyond your control or

[1] Order Approving Five-Year Update to the Operations and Compliance Plan Under Article 402 (149 FERC ¶ 62,149), issued December 2, 2014.

[2] Order Issuing Original License (79 FERC ¶ 62,217), issued June 26, 1997.

for short periods of time upon mutual agreement between you, the Michigan Department of Natural Resources (Michigan DNR) and the U.S. Fish and Wildlife Service (FWS). If the flow is so modified, you must notify the Commission, the Michigan DNR, and the FWS as soon as possible, but no later than 7 days after each incident.

Article 402 of the project license requires you to implement an Operations and Compliance Plan (Plan). Your Plan, in part, states that during periods of project shutdown, per your approved Operations and Compliance Plan, you are required to start a siphon within 4 hours of a power outage or emergency that is capable of supplying 10 cfs to maintain adequate flows in the bypass when the reservoir level is less than 778.0 feet.

February 14, 2016 Deviation

According to your report, you deviated from the minimum flow requirement on February 14, 2016 from 1030 hours to 1245 hours when air temperatures reached 30 degrees below zero. The low temperature caused a pressure sensor to freeze and falsely indicate a loss of pressure in the penstock. This false indication caused the system to inadvertently shut down the project, which includes a closure of the valve to the penstock. During this time, there was a period of 2 hours and 15 minutes where discharges from the powerhouse fell below the 50 cfs minimum flow requirement, with the lowest recorded flow being 7 cfs, as recorded by a downstream U.S. Geological Survey (USGS) gage. Operations personnel were notified and arrived on site, diagnosed the problem, refilled the penstock and brought the project back online. As a corrective measure, you relocated the project heaters to ensure that the pressure sensors do not freeze in the future. You notified the required resource agencies of the deviation by letter dated February 23, 2016. No adverse environmental effects were observed as a result of the deviation.

February 16-18, 2016 Deviation

According to your report, you deviated from the siphon requirement described in your Plan beginning at 1830 hours on February 16 and ending at 1900 hours on February 18, 2016 when project personnel intentionally dewatered the penstock for an emergency inspection related to the February 14 incident, explained above. In accordance with your Plan, you attempted to start the siphon pipe to provide the required 10 cfs flow to the bypass reach while you were performing emergency inspection; however, an underwater section of the siphon pipe froze due to excessively cold temperatures, and as a result, you were unable to release the required 10 cfs. During part of this time period (i.e. February 16 at 2000 hours to February 18 at 2000 hours), the USGS gage malfunctioned; therefore, you do not have a clear idea how low flows were in the Au Train River downstream of the project; however, once the gage function was restored at 2000 hours on February 18,

flows in the Au Train River ranged from 24 cfs to 26 cfs. After numerous attempts to restore flow to the siphon pipe, on February 18 at 1900 hours, you began to provide the required 10 cfs to the bypass reach, and by February 20, 2016, the penstock was refilled and the project was brought back online, which restored the normal minimum flow (i.e. 50 cfs) to the river. You notified the required resource agencies of the deviation by letter dated February 23, 2016. No adverse environmental effects were observed as a result of the deviation.

Conclusion

Based on our review of the available information, we have concluded that the deviation from the required minimum flow requirement on February 14, 2016 and the deviation from the siphon requirement on February 16-18, 2016 will not be considered violations of Article 401 or 402 (i.e, the Plan) of your license. The deviations were the result of excessively cold temperatures that reached 30 degrees below zero that caused equipment to fail. The failing of the pressure sensor and the siphon pipe both prevented you from providing the required flows downstream. In the case of the February 14 incident, you acted quickly to bring the project back online and restore flow through the penstock. Further, you took corrective action to reduce the potential for a similar occurrence in the future by relocating the project heaters. In the case of the February 16-18 incident, you followed the procedures outlined in your Plan when you determined that an emergency shutdown was necessary, and could not have anticipated that an underwater section of the siphon pipe would freeze and therefore block water flow through the siphon. You acted quickly to minimize the shutdown time and restore flows through the siphon pipe, and eventually, the penstock. Neither deviation resulted in any adverse environmental impacts. When reporting future deviations, please justify how you determined whether the deviation(s) resulted in any environmental impacts, and explain the protocol you implemented to arrive at your conclusion. These incidents will be made a part of the compliance history for the project and taken into consideration regarding any future similar events.

Thank you for your cooperation. If you have any questions regarding this letter, please contact Joy Kurtz at (202) 502-6760.

Sincerely,

Thomas J. LoVullo

Thomas J. LoVullo
Chief, Aquatic Resources Branch
Division of Hydropower Administration and Compliance

Document Content(s)

P-10856-103.PDF.....1-4