

155 FERC ¶ 62,225
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Northbrook Wisconsin, LLC

Project No. 2536-057

ORDER APPROVING FIVE-YEAR WATER QUALITY MONITORING REPORT
PURSUANT TO ARTICLE 406

(June 17, 2016)

1. On April 11, 2016, Northbrook Wisconsin, LLC, licensee for the Little Quinnesec Falls Hydroelectric Project No. 2536, filed its 2011 Five-Year Water Quality Report, pursuant to License Article 406¹ and the Order Modifying and Amending Water Quality Monitoring Plan (2002 Order).² The project is located on the Menominee River near the City of Niagara in Marinette County, Wisconsin, and Dickinson County, Michigan.

License Requirements and Background

2. In part, Article 406 requires the licensee to: (1) maintain monthly average temperatures downstream of the dam as specified in Article 406; (2) ensure the water temperature downstream of the dam does not exceed 32°C (89°F) at any time; (3) ensure dissolved oxygen (DO) concentrations downstream of the project powerhouse is not less than 5.0 milligrams per liter (mg/L) at any time; and (4) maintain the pH within the range of 6.0 to 9.0, with no change greater than 0.5 units outside of the estimated natural seasonal maximum and minimum. The licensee is required to continuously monitor water temperature, DO, and pH in the project tailrace from May 1 through September 30 (the monitoring period), every five years.³ Monitoring equipment is installed upstream of the wastewater treatment discharge point (paper mill operations have ceased and wastewater is no longer discharged to the river, although the location of the equipment remains the same). Should DO concentrations drop below 5.0 mg/L, the licensee must take vertical profile measurements in the deepest part of the project reservoir and inform

¹ Order Issuing New License (79 FERC ¶ 62,095), issued May 7, 1997.

² 101 FERC ¶ 62,196, issued December 24, 2002.

³ The start date for monitoring was amended from May 1 to June 1. See paragraph 9 of this order for additional information.

the resource agencies within 2 days of the low DO event. The monitoring equipment is designed to automatically dial operators if DO concentrations reach 5.0 mg/L.

3. Ordering paragraph (B) of the 2002 Order requires the licensee to file five-year water quality monitoring reports with the U.S. Fish and Wildlife Service (FWS), the Wisconsin Department of Natural Resources (Wisconsin DNR), the Michigan Department of Natural Resources (Michigan DNR), and the Michigan Department of Environmental Quality (Michigan DEQ), by November 30 and with the Federal Energy Regulatory Commission (Commission) for approval by January 30 of the following year. Previous reports were filed with the Commission for review in 2001 and 2007 (reporting 2001 and 2006 data collection, respectively). Subsequent monitoring is conducted at a frequency of every five years for a 20-year period, to be completed in 2021. The final report is expected to be filed with the Commission by January 30, 2022, and would include recommendations for Commission approval on the need for future water quality monitoring and the filing of monitoring reports.

Compliance Issues in the 2011 Report

4. The 2011 water quality report was due to be filed with the Commission for approval by January 30, 2012. The report was filed on April 11, 2016, and Commission staff issued a letter on April 28, 2016, requesting that the licensee provide additional information to ensure a complete review of the issues contained in the 2011 report. Specifically, Commission staff requested that the licensee explain: (1) why the 2011 report was filed 4 years late; (2) whether it had consulted with all agencies listed in ordering paragraph (B) of the 2002 Order; (3) why there was a delay in recovering data and providing the 2011 report to the agencies; and (4) what actions it was taking to improve the quality assurance and quality control (QA/QC) methods and ensure an accurate and complete record of water quality data is collected in 2016. The licensee's response to staff's concerns was filed on May 25, 2016.

2011 Water Quality Monitoring Results

5. The licensee installed water quality monitoring equipment on April 27, 2011 and removed it on October 9, 2011, so that it was in place for the entirety of the monitoring period. The connected datalogger recorded water quality measurements from the monitoring equipment hourly, although a glitch in its programming rendered the data collected every 16 hours to be unusable.

6. The licensee stated that DO concentrations and temperature were within the standards for the entire monitoring period. However, pH measurements exceeded the standard of 9.0. The licensee reports that the unit was not calibrated during the course of deployment, and there may have been issues with calibration drift or a failure of the probe. The licensee indicates that these readings may be erroneous, based on its previous

results (i.e., there were no instances of pH failing to be within criteria during monitoring in 2006) as well as its experience in previous years that regular calibrations were needed to correct for a tendency toward upward drift. The licensee states that the requirement to monitor pH is likely a carryover from when there was an active and ongoing wastewater discharge and a baseline measurement was needed.

7. The licensee states that it collected data hourly during the entire monitoring period except for a brief interruption in July and a longer duration data loss during August through September. The short loss of data from July 11 to July 13, 2011, lasted a total of 51 hours. The licensee reported that data on each side of this gap appeared steady and provided no indication of a problem. The data gap was likely related to a problem in the downloading process used for ongoing regular backup, but is otherwise unexplainable. The longer data loss occurred when there was an inability to communicate with the datalogger starting on August 16, 2011, which lasted for the duration of the deployment and made it impossible for staff to continue downloading data. The licensee employed a consulting firm to attempt a data recovery process in 2013. Due to the “first in, first out” data recording program, some missing data had been overwritten and therefore there was a gap in the data from August 16 through September 14, 2011.

8. The report provides data tables and graphs of DO, temperature, and pH, as well as the raw data for each parameter. DO and temperature recordings were always in compliance, but pH did not always meet water quality standards. The licensee states that pH calibration drifted significantly in the monitoring period and the standard was exceeded, and that the data were unreliable. Further, due to the operation change (no wastewater discharge) and previous years of data, the licensee states that the pH exceedances were probably less of a concern. The licensee concludes that there is no data to suggest that water quality standards below the project are being compromised by its operation.

Proposal for 2016 Monitoring

9. The licensee’s proposal for 2016 monitoring was filed with the Commission on April 25, 2016. In it, the licensee requested to modify the monitoring period to start June 1 rather than May 1 to focus on the warmest period of the year when water quality parameters are likely under increased stress. The licensee also stated that there has never been a DO violation that would require the licensee to perform a depth profile in the reservoir, so the licensee requested to routinely measure DO profiles during the monitoring period: twice in July, and twice in August, as well as anytime DO concentrations below the limit is first directed. The proposals were approved by Commission staff in an order issued May 2, 2016,⁴ although in an email to the Michigan

⁴ Order Amending Water Quality Monitoring Plan Pursuant to Article 406 (155 FERC ¶ 62,082), issued May 2, 2016.

DEQ dated May 25, 2016, the licensee stated that it deployed the new monitoring equipment on May 9, 2016, and will follow the schedule for the modified monitoring season during 2021.

Agency Consultation

10. The 2011 data report was provided to Wisconsin DNR, Michigan DNR, and FWS on July 2, 2013. In its May 25, 2016 letter, the licensee indicated that the delay in providing the report was due to difficulty extracting data from the equipment. Wisconsin DNR and Michigan DNR provided comments on August 5 and 9, 2013, respectively. On August 6, 2013, FWS indicated that it deferred to the Wisconsin DNR for water quality comments. Because Michigan DEQ was mistakenly excluded from the consultation process in 2013, the licensee provided the report to them on May 17, 2016. Michigan DEQ provided comments on May 25, 2016.

11. The state agencies indicate that there were significant QA/QC problems and data gaps in the 2011 report. Wisconsin DNR stated that the licensee's conclusion that water quality standards were not violated was based on data that was marginal at best. Wisconsin DNR stated that it agrees that the water quality standards were likely not violated during the brief data gap in July, but that there is little assurance that water quality standards were not exceeded during the extended data gap in August through September. Further, Wisconsin DNR expressed concern that the monitoring equipment was not properly maintained or calibrated in 2011, and that conclusions were based on data collected with inadequately calibrated and maintained equipment. Specifically, pH exceedances were dismissed due to the equipment losing calibration, and while Wisconsin DNR agrees that this could be a possibility, it has concerns that the equipment was also out of calibration for temperature and DO measurements, and therefore exceedances could have been missed.

12. Wisconsin DNR requested that the licensee develop an equipment calibration and maintenance schedule and log and include it in the 2016 data report, in order to indicate the capability of the equipment used to provide accurate results for the entire monitoring season. Additionally, if the equipment was properly calibrated and maintained there should be limited or no gaps in the data collection, or no gaps longer than the duration necessary for maintenance of the equipment to occur. Wisconsin DNR states that this is an important factor that would be considered when it reviews whether monitoring should be suspended after 2021 (currently scheduled to be the final year for monitoring), because it is imperative that the data collected is an accurate representation of the conditions and impacts of the project on the waterway.

13. Michigan DNR agreed with Wisconsin DNR's comments and states that while it appears violations are very limited, there are problems with the lack of a complete data set. Michigan DNR agrees with the recommendation that the licensee should develop a

QA/QC protocol and maintain the equipment deployed in the field, and further suggests that it may be beneficial to invest in new equipment.

14. Michigan DEQ agreed that there were QA/QC issues in 2011, and expressed concerns that the extended data gap occurred during what is usually the hottest time period in the summer, when DO concentrations are most at risk. With regard to the proposal to modify the monitoring period, Michigan DEQ stated that it typically doesn't agree to reduced monitoring when there are data gaps or exceedances of water quality standards.

15. The licensee responded that in order to ensure accurate recording of water quality data in 2016, it has secured a contractor to collect data in accordance with the water quality monitoring plan. A different model of monitoring equipment is currently installed, and the licensee states that the consultant will visit the site approximately every two weeks for physical inspection, downloading, data review, calibration, and maintenance. Specifically, the pH reference electrode will be rebuilt and recharged with electrolyte tables each month, and the consultant will secure a spare unit that will be calibrated and ready to replace the primary monitoring unit should the need arise. The licensee states that it will maintain a record of maintenance and calibration activities that will be included in the 2016 report.

Discussion and Conclusion

16. The licensee's 2011 data report was filed four years late, and data lost during the 2011 season was not recovered until 2013 (only part of it was recovered). The May 25, 2016 letter explains that the report was delayed and the data recovery effort was slow due to the difficulty extracting data from the monitoring equipment and an inadvertent oversight that arose from changes in project management personnel. Commission staff concludes that the gaps in the data record and calibration problems with the monitoring equipment make it difficult to determine with certainty whether water quality standards were met for the duration of the 2011 monitoring season. Further, staff concludes that the extreme lateness of the filing and the incomplete data record for 2011 are violations of Article 406 of the license. It is the licensee's responsibility to ensure that all project requirements are completed timely and completely, despite changes in personnel. It is anticipated that equipment malfunctions can occasionally occur, however, Commission staff concludes that the licensee should be able to minimize data loss and compromising the record if it inspects equipment regularly to ensure proper operation. These violations will be made a part of the licensee's compliance record, and will be taken into consideration in the course of the Commission's review of any other violation in order to determine appropriate Commission action.

17. The licensee has deployed new monitoring equipment, and has made changes to ensure the quality and accuracy of water quality data collected in 2016, such as frequently scheduled calibration and maintenance activities. The licensee's report was

filed with the resource agencies as required, and addressed agency concerns about the data gaps and calibration concerns by taking action to improve the QA/QC protocols for the 2016 monitoring season.

18. The 2016 monitoring season is currently underway, and Commission staff expects the next report for Commission review by January 30, 2017, including any proposals for conducting the monitoring scheduled to occur in 2021. The licensee's efforts to improve the water quality monitoring practices at the project are expected to help ensure an accurate data record is obtained and water quality standards are achieved.

The Director orders:

(A) Northbrook Wisconsin, LLC's 2011 Water Quality Monitoring Report filed on April 11, 2016, pursuant to Article 406 and the of the license for the Little Quinnesec Falls Hydroelectric Project No. 2536, and the Order Modifying and Amending Water Quality Monitoring Plan, is approved. The next report is due by January 30, 2017.

(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 8251 (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2015). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

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Document Content(s)

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