

FEDERAL ENERGY REGULATORY COMMISSION
Washington, DC 20426

OFFICE OF ENERGY PROJECTS

Project No. 12555-018 and 019 -- Pennsylvania
Mahoning Creek Hydroelectric Project
Mahoning Creek Hydro Company, LLC

July 23, 2015

Juan A. Kimble, P.E.
President
Mahoning Creek Hydro Company, LLC
5425 Wisconsin Avenue, Suite 600
Chevy Chase, Maryland 20815

Subject: Temperature deviations occurring in April and May 2015

Dear Mr. Kimble:

We received your May 15, 2015 and June 15, 2015, filings that identify temperature deviations from the requirements of the Mahoning Creek Hydroelectric Project license.¹ Your filings report deviations of the project's temperature requirement that occurred on April 14, 2015, at the hydro intake and outfall monitoring locations, and on May 7, 2014, at the hydro intake location.

License Requirement and Background

Article 402 of the project license required you to develop a Water Quality Monitoring Plan (WQMP) after consultation with the Pennsylvania Department of Environmental Protection (PDEP) and the U.S. Army Corps of Engineers (Corps). Your plan was also developed as part of your Memorandum of Agreement (MOA) with the Corps. Under the MOA, you and the Corps developed a Water Quality and Aquatic Life Adaptive Management Plan (AMP) that in part, defines water quality requirements for DO, temperature, and total dissolved gas. The water quality standards for the project as defined in the AMP are as follows:

¹ Order Issuing Original License. 134 FERC ¶ 62,202 (issued March 4, 2011).

Stilling basin

- *Minimum DO 7.0 milligrams per liter (mg/l).*
- *Monthly or bimonthly, maximum water temperature, not to exceed Pennsylvania Trout Stocked Fishery Criteria except in mid-August and early September when water temperatures will not exceed 80° F (26.7°C).*

Mahoning Dam Outflow, Mahoning Creek directly downstream of the hydropower outfall

- *Minimum DO 7.0 mg/l.*
- *Maximum Percent Total Dissolved Gas Saturation (percent TDG Sat) 103 percent when the DO is 7.0 mg/l or lower.*
- *Monthly or bimonthly, maximum water temperature, not to exceed Pennsylvania Trout Stocked Fishery Criteria, except in mid-August and early September when water temperatures will not exceed 80° F (26.7°C).*

Mahoning Dam Outflow, Mahoning Creek at the McCrea Furnace Bridge

- *If the DO level drops below 7.0 mg/l more than 1 percent of the time during the summer/fall season, then the DO criterion for the hydropower tailrace outfall will be raised.*
- *If the water temperature rises above 80°F more than 1 percent of the time during the summer/fall season, then the water temperature criteria for the hydropower tailrace outfall or the lake will be lowered.*
- *If the percent TDG Sat level rises above 103 percent when DO levels are 7.0 mg/l or lower for more than 1 percent of the time during the summer fall season, then the percent TDG saturation criterion for the hydropower tailrace outfall will be lowered.*

Water Quality, Lake

- *Minimum DO 3.6 mg/l at a depth of 24 feet at summer pool elevation (1098 ft NAVD).*
- *Maximum water temperature 80°F (26.7°C) at a depth of 24 feet (1074 ft NAVD).*

You filed your Water Quality Monitoring Plan with the Commission on January 29, 2014 and supplemented the filing on June 18, 2014. On July 1, 2014, the Commission modified and approved your plan.² Ordering paragraph (B) requires you to

² Order Modifying and Approving Water Quality Monitoring Plan, Pursuant to Article 401. 148 FERC 62,005. ¶

file a report with the Commission by the 15th day of the following month in which deviations of the water quality requirements occur.

Reported Temperature Deviations

April 2015

You report that at 11:00 AM on April 14, 2015, a high temperature deviation occurred at the outfall monitoring station; in response, your operator shutdown the hydro facility and bypassed flow through the Corps facility. Prior, you had contacted Corps staff to let them know that your project was approaching the 52° temperature standard limit for that time period, and that you may need to transfer flow over to the Corps bypass flow. At 13:32, the hydro facility was restarted, as temperature readings had returned to less than that required. However, at 13:40, a second deviation occurred at the hydro outfall location. The operator again, shutdown the hydro facility and bypassed the flow as required. In consultation with the Corps operators, it was determined that the hydro facility should remain offline until April 16, 2015, when calculated temperature standards would then increase to 58°. You report that several temperature deviations occurred on that day as recorded in 10 minute data collection intervals. The highest deviation amount was 0.81° for one 10 minute reading.

Upon consultation with the Corps Pittsburg District regarding the event, it was determined that the unusually warm and dry conditions likely contributed to the deviations. The Corps acknowledged the licensee's communication with its staff at the project and its shutting down the hydro in response to the deviation. Also, in your consultation, it was determined that the hydro intake monitoring station data may not be representative of the prevailing temperature conditions in the reservoir. Corps staff noted that a vortex occurs near the water quality monitoring probe in the forebay which could affect the stratification patterns in the forebay near the probe. As such, you and Corps staff intend to reevaluate the location of that probe.

May 2015

You report that on May 7 to May 8, 2015, high temperature deviations occurred at the intake monitoring station. You report that the deviation averaged 0.39° for an 11 hour period. The deviation in temperature began at 22:30 hours on May 7, 2015. In response, your operator shutdown the hydro facility at 10:30 the following morning, May 8, 2015, after coordination with the Corps staff.

Upon consultation with the Corps Pittsburg District regarding the event, it was determined that the unusually warm and dry conditions likely contributed to the deviations. Again, as in the April 2015 deviation, it appears that the vortex in the forebay may be affecting the stratification patterns in the forebay near the probe, noting that its

temperature monitoring indicates that you are recording slightly higher temperatures than that of the Corps monitoring probe. You report that you will continue to evaluate water quality monitoring at the site and determine if any changes to the AMP is necessary.

Discussion and Conclusions

It appears that the April and May temperature deviations were possibly a result of warmer and drier than normal seasonal conditions. However, it also appears that the location of your water quality monitoring probe in the forebay may be influenced by the mixing of surface and mid depth waters, which is creating readings that differ from the Corps monitoring, at least for temperature. As suggested, you should continue to consult with the Corps on this issue and determine if the location needs to be changed and the AMP needs to be modified. If so, you will also need to amend the Water Quality Monitoring Plan (WQMP) for the project. If an amendment to the WQMP is necessary, you will need to consult with the Corps as well as the Pennsylvania Department of Environmental Protection, prior to filing an amendment request with the Commission for approval.

After review of the available information and data, we conclude that the temperature deviations that occurred at the Mahoning Creek Hydroelectric Project during April and May 2015 occurred as a result of warmer and dryer seasonal conditions and will not be considered violations of your project license. However, please be aware that these deviations will be made a part of the Commission's record for the project and similar deviations in the future may be considered a violation of your license.

Non-compliance with Water Quality Monitoring Plan

In our review of your deviation reports, Commission staff discovered that you have not filed a 2015 annual water quality report as required by section 6.0 of your approved plan. Pursuant to the Commission's Order Modifying and Approving Water Quality Monitoring Plan, Pursuant to Article 402, issued on July 1, 2014, you are required to file an annual water quality summary report with the Commission for review. Your annual report must be filed with the PDEP and the Corps by February 28 each year for review and comment, prior to filing it with the Commission for review by April 30.

It appears that you have not filed that report with the Commission and you are therefore in noncompliance with your project license. In order for you to bring your project back into compliance with the project license, you must file your report within 45 days of the date of this letter. You must file your report as described in your Water Quality Monitoring Plan along with documentation of its distribution to the Corps and PDEP, any comments received, and an explanation as to why the report was not filed as required.

Thank you for your cooperation and reports. We anticipate that your annual water quality summary report, along with an explanation as to why it was not filed timely, will be filed with us by September 8, 2015. If you have any questions regarding this letter, please contact Robert Ballantine at (202) 502-6289.

Sincerely,

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