



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES  
LANSING



KEITH CREAGH  
DIRECTOR

April 11, 2018

Mr. Lee Mueller, Co-Member Manager  
Boyce Hydro Power, LLC  
6000 S M-30  
PO Box 15  
Edenville, MI 48620

**RE: WATER TEMPERATURE AND IMPOUNDMENT LEVEL DATA FOR THE SECORD (FERC NO. 10809), SMALLWOOD (FERC NO. 10810), EDENVILLE (P-10808), AND SANFORD (FERC NO. 2785) PROJECTS ON THE TITTABAWASSEE RIVER, MICHIGAN**

Dear Mr. Mueller,

Thank you for your response letter dated April 9, 2018 regarding our inquiry about impoundment levels and temperatures at the Boyce Projects. You indicate that you will be providing the readings from the operator logs. We look forward to that. However, we requested the tailwater temperature readings. Your Commission approved water quality monitoring plan requires you to collect hourly water temperatures in the tailraces year around. We believe that tailwater temperatures during the periods of operation will provide a good representative value for temperature of the upstream water column. Therefore, we request that you include the hourly tailrace temperature data along with the operator log data for each of the projects. You also noted the change in weather following the 3<sup>rd</sup> of April. We would like to understand the temperature dynamics a little better, so we are requesting that you include a few more days' worth of data through April 10, 2018.

I have included charts (Appendix) where the temperature data from around the region (USGS Water Quality, Current Conditions website) demonstrates that water temperatures were rapidly approaching or well above 39°F in mid-Michigan. I also contacted Fisheries Division staff who were tagging walleyes from the Tittabawassee River at the Dow Dam in Midland, Michigan. They recorded the following temperatures (approximately 9:00 A.M. each day):

March 23, 2018	38.2F	March 28, 2018	41.6F
March 26, 2018	38.0F	April 2, 2018	38.8F

We also had staff stop by and check the water temperature at the boat launch in Sanford Park below the Sanford Project on April 9, 2018 at 5:19 P.M. The temperature was 40.1°F. So, our

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inquiry was based on evidence we were able to review that would suggest that temperatures in the Tittabawassee and the impoundments would be approaching or exceeding the 39°F threshold, the photo provided by the public notwithstanding.

With the tailrace data and operator data, we can review the appropriateness of the compliance point currently being used. We interpret the license requirement to refill the ponds prior to the temperature reaching 39°F at any point, whether it stays at that temperature or not. We look forward to better understanding how the water temperatures have been changing in the system. We appreciate Boyce's cooperation in providing the data requested. If you have any questions or need clarification, please feel free to contact me at: Michigan Department of Natural Resources, Mio Field Office, 191 S. Mt. Tom Rd., Mio, MI 48647.

Sincerely,

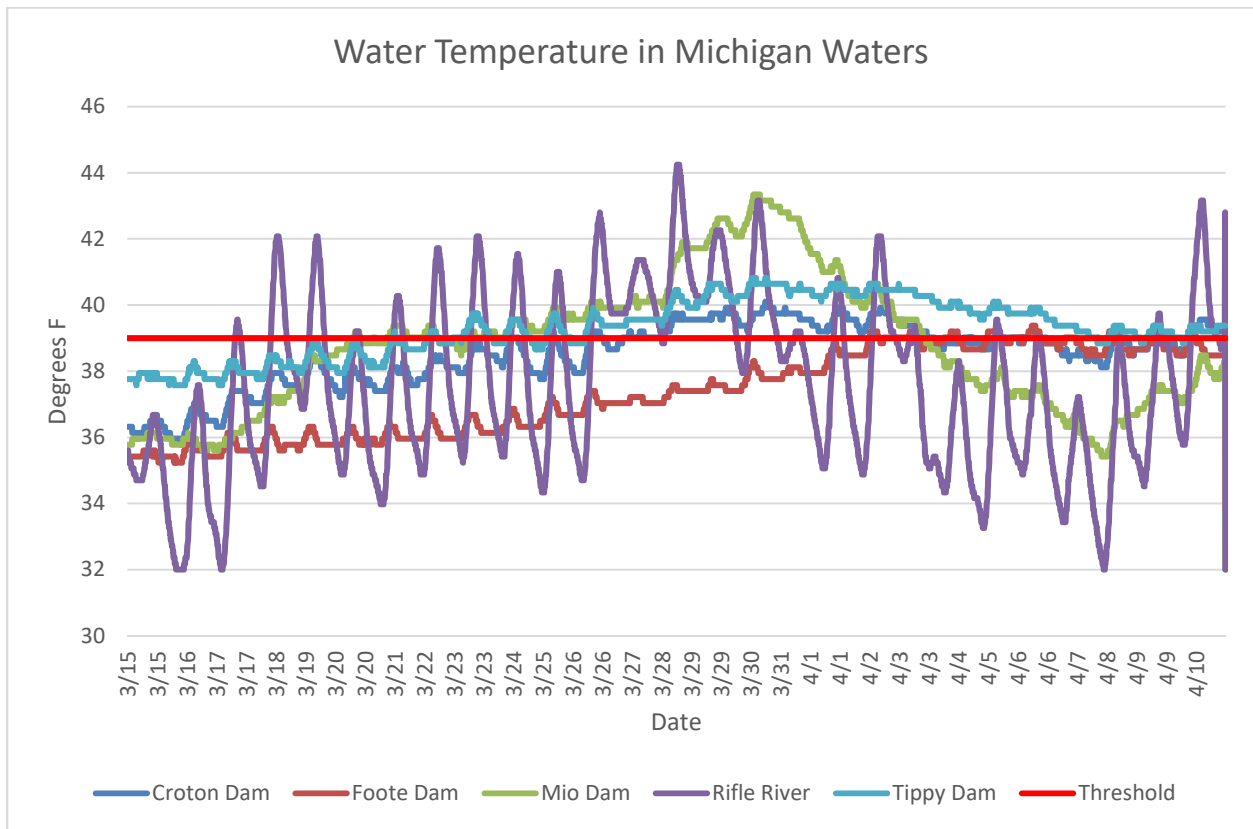


Kyle Kruger  
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cc Kimberly Bose, FERC, DC  
Kelly Houff, FERC, DC  
TJ LoVullo, FERC, DC  
Steven Sachs, FERC, DC

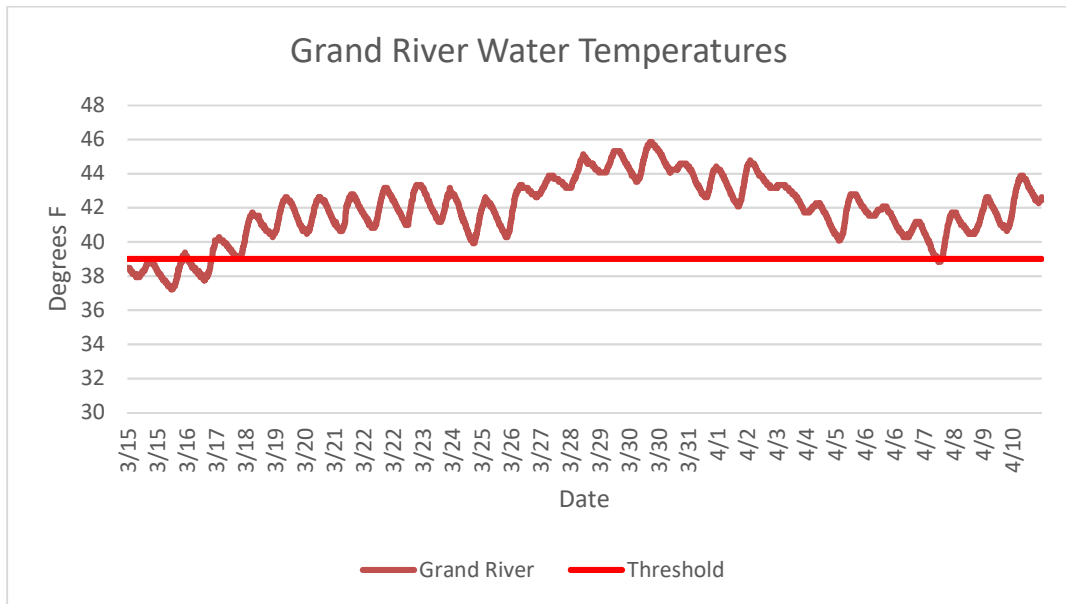
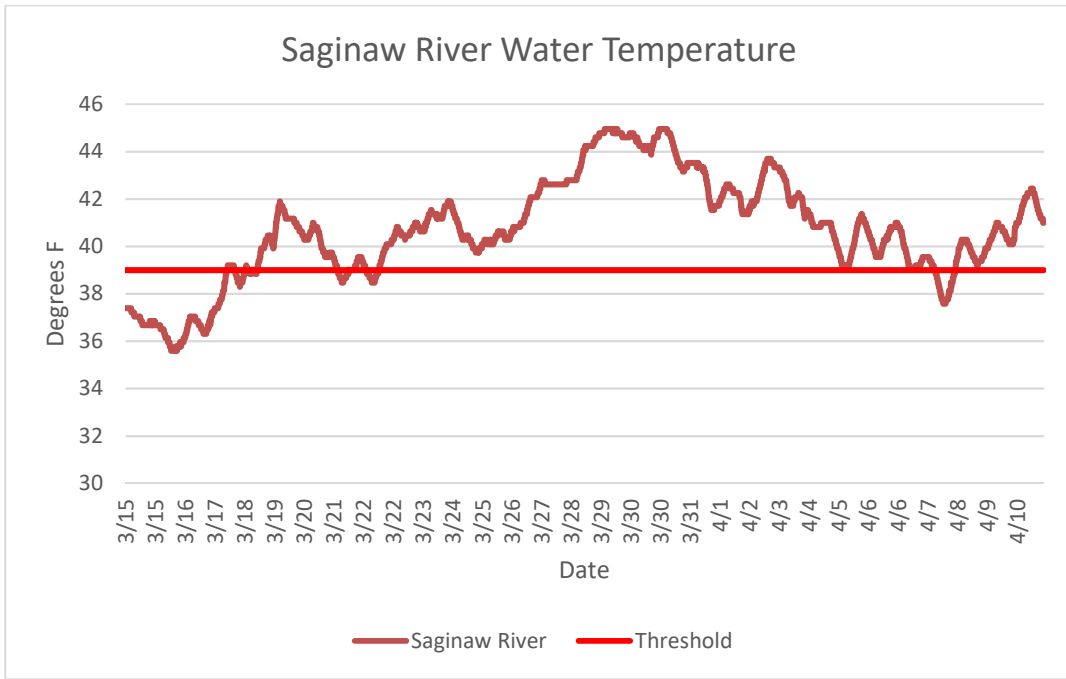
## Appendix

Water temperatures at various locations in central Lower Peninsula, Michigan. Dam temperatures reflect water temperatures in the tailrace. All project draw from the upper 10-20 feet of the water column. The Saginaw River (of which the Tittabawassee is a tributary) and Grand River are plotted separately due to readings on a more frequent interval than hourly.



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