



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LANSING



KEITH CREAGH
DIRECTOR

December 11, 2018

Mr. Josh Ball
Upper Peninsula Power Company
1002 Harbor Hills Drive
Marquette, MI 49855

**RE: DEAD RIVER HYDROELECTRIC PROJECT – REQUESTED TEMPORARY
AMENDMENT TO PLANNED OPERATIONS JANUARY 2019 TO DECEMBER
2019 (P-10855)**

Dear Mr. Ball,

The Michigan Department of Natural Resources (MDNR) has reviewed Upper Peninsula Power Company's (UPPCO) Request for Temporary Amendment and proposed changes to start of month targets at Silver Lake Storage Basin (SLSB) and Hoist/Dead River Basin. MDNR appreciates the proactive nature of UPPCO's recent discussions with DEQ, MDNR, and FWS. MDNR plans to continue these discussions with UPPCO, agency representatives, and stakeholders to evaluate whether implementation of UPPCO's proposed temporary amendment for 2019 operations provide for: bankfull flow releases (as required in the Consent Judgment, and in the future to support ecological function) and water quality improvements in the Dead River.

Provided conditions 1 and 2 are satisfied, MDNR approves of UPPCO's plans to:

- Temporarily alter target elevations for Silver Lake Storage Basin (February-October 2019)
- Temporarily alter target elevations for Hoist Basin (May 2019)
- Deliver flows above the current license minimums:
 - o For bankfull flow for channel maintenance (as required in the Consent Judgment, with attention to whether this operating scenario increases the ability to do so in the future) These flows should be timed to coincide with the spring runoff.
 - o As a roughly constant increase over the minimum flow in July and August when water quality has failed to meet standards in many of the last several years

MDNR conditions on the above approval:

1. UPPCO host a discussion to determine how water stored in SLSB will be allocated in the summer for the purpose of improving water quality. DNR believes that the discussion should take place as soon as possible following spring runoff, (UPPCO proposed no later than July 1, 2019, while MDNR would like it to occur in May or as soon as most snowpack has been converted to runoff).

- The objective of the post-runoff consultation will be to assess the current storage in the Dead River system and propose strategies for flow conditions most likely to alleviate water quality concerns.
 - The simulation in Option 3a of UPPCO's Appendix A (December 4, 2018, p7) approximates the pattern of minimum outflow that seems both most likely to occur, and to alleviate water quality concerns.
 - Follow-up discussions to shape minor adjustments (such as specific timing of augmenting flows) will likely be required closer to July 1, 2019 and August 1, 2019 as UPPCO recommended as the first occurrence of consultation in its December 4, 2018 letter.
2. UPPCO collects and provides data, and summaries outlined below as part of an evaluation of effectiveness toward the end of the 2019 season:
- a. Fish and Mussel stranding survey reports associated with reservoir fluctuations/subsequent drawdowns of 0.3-0.5 foot/day or more for two or more days, as well as any time where elevation is reduced by one foot or more within in any three-day period. (UPPCO has described operations plans intended to reduce fluctuations, so the conditions under which these surveys would be required may be avoided entirely).
 - i. Efforts should be made to relocate all stranded organisms to the permanently inundated portions of the reservoir upon discovery.
 - ii. The report should be provided within 30 days of any survey and include species found, number of organisms dead, alive, and relocated.
 - iii. If more than 20 organisms are found, MDNR should be notified within 24 hours.
 - b. Continuation of existing water quality monitoring in all impoundments and stream reaches following the procedures and data presentation used in developing and explaining this proposal.
 - c. Report of reservoir elevations and outflows (to include route of water outflows: over spillway, low level outlet or generation for each development, as well as the number of units running, or other operational details as appropriate).
 - d. Summary of provision of channel-forming bankfull flows (dates, duration, flows).
 - e. Summary of augmentation flow periods and its effects on associated water quality data.
 - f. Summary report of metrics included in UPPCO's December 4, 2018 letter (tables used for predicting spilling, dry year consultations, pages 4 and 5).
 - g. Summary of whether and to what extent expectations outlined in UPPCO's eight points of 'benefits' were met as defined in UPPCO's December 4, 2018 letter (pages 9 and 10).
 - h. Inclusion of erosion data, formal or anecdotal comments from recreational users, as well as correspondence with MBLP and other downstream stakeholders.

UPPCO has acknowledged that the parties to this discussion are uncertain whether augmented flows will alleviate water quality concerns, or the amount of augmentation that would be necessary under varying future conditions to do so. Even though there is uncertainty, briefly outlined above, the Department approves, with conditions to ensure the ability to evaluate efficacy and protect natural resources, UPPCO's proposed Temporary Amendment. Proceeding with 2019 as an experiment and collecting and considering data outlined above should increase our understanding of the extent to which augmented flows reduce the frequency, severity, and duration of water quality concerns (dissolved oxygen and temperature), particularly in July-August. MDNR anticipates that conditions in 2019 will be used to determine whether another temporary amendment, continuation of the proposed targets, or reversion to previous targets and operations conditions are warranted based on observed outcomes for water quality.

Some uncertainties that MDNR will be paying attention to as part of implementation of this Temporary Amendment include:

- Whether the reduced reservoir fluctuations anticipated by UPPCO in the December 4, 2018 letter are realized.
- Whether storage in SLSB tends to improve water quality when releases are spread out over July-August.
- Potential unintended impacts of the Temporary Amendment, including:
 - o Accelerated erosion
 - o Recreational use issues
 - o Issues for walleye spawning in Hoist/Dead River Basin (change to May target elevation might be found problematic for *Sander vitreus*)
 - o Challenges holding SLSB elevations within acceptable range during bluegill (*Lepomis macrochirus*) spawning in early summer, as well as impacts to minnows (important for forage) and their migration throughout Dead River system
 - o Consequences to downstream developments (including Marquette Board of Light and Power P-2589)
 - o Operational challenges (i.e. combining adjustments to flows in July-August with precipitation events, recognizing the structure of the model UPPCO provided in the review does not allow for smooth allocation of stored water)

If augmenting flows is shown to have promise for reducing water quality concerns, but operational challenges are encountered (e.g. difficulty determining when and how much flow to release at the time of the post-runoff discussions, or later operations), it may become necessary to incorporate real-time flow gaging and water quality monitoring into UPPCO's operations for the Dead River.

As outlined in condition 2, UPPCO should hold a discussion in the Fall 2019 to evaluate the effectiveness of the 2019 operations under the Temporary Amendment. To allow agencies to prepare for that discussion, data associated with the 2019 season (see summary above) should be provided at least two weeks in advance. These data should

Mr. Josh Ball, Upper Peninsula Power Company
Dead River P-10855 Temporary Amendment Request

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help resolve several of the uncertainties we currently face and allow the group to determine whether the 2019 Temporary Amendment should be continued, modified, or abandoned in favor of previous targets and operations conditions.

Thank you for the opportunity to comment. If you have any questions or feel additional clarification would help, please feel free to contact me at:

MARQUETTE CUSTOMER SERVICE CENTER
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
1990 US HWY 41 SOUTH
MARQUETTE MI 49855

Sincerely,



Elle Gulotty
Resource Analyst
Habitat Management Unit
FISHERIES DIVISION
(906) 228-6561 x 3002

cc: Scott Hicks, USFWS, E. Lansing
Amira Oun, Michigan DEQ, Lansing, MI
Jessica Mistak, HMU Supervisor, Escanaba Field Office, Gladstone MI



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



C. HEIDI GREYER
DIRECTOR

December 11, 2018

VIA E-MAIL

Mr. Virgil Schlorke
Upper Peninsula Power Company
1002 Harbor Hills Drive
Marquette, Michigan 49855

Dear Mr. Schlorke:

SUBJECT: Dead River Hydroelectric Project – Silver Lake, Hoist, and McClure Developments
P-10855: Proposed Temporary Amendment to Operate the Dead River
Hydroelectric Project January 2019 through December 2019 - Comments by the
Michigan Department of Environmental Quality (MDEQ)

On November 16th UPPCO sent a letter for agencies requesting comments on proposed temporary amendments to operate the Dead River Hydroelectric Project (Proposal) from January 2019 through December 2019. On November 30th, 2018, the MDEQ and the Michigan Department of Natural Resources (MDNR) had a conference call with UPPCO to discuss the changes in the project operations that have been proposed by UPPCO. The MDEQ and the MDNR had some questions on UPPCO's 2019 operations proposal which were answered by UPPCO during the teleconference. UPPCO has modified the Proposal using the agencies guidance and re-sent the proposal on December 4th for comments. Also, UPPCO shared four years (2015 through 2018) of combined water quality monitoring data, and the hydrologic model for the Dead River to increase the agencies' ability to understand UPPCO's prediction of the spring runoff and other events.

The MDEQ approves UPPCO's December 4th request to: 1) raise the start of month headwater target elevation at Silver Lake Storage Basin (SLSB) to 1,479.0 ft NGVD for the months of February and March; raise the start of month target for April, May, June, and July to 1485.0 feet NGVD to allow for the capture of the maximum amount of spring runoff flows; and reduce the SLSB elevation by 2.5 feet in July and again by 2.5 feet through the month of August; and 2) raise the start of month headwater target elevation at Dead River Storage Basin (DRSB) to 1,341 ft NGVD for the month of May.

UPPCO should note that at all times, the monthly minimum flows from SLSB should be maintained as required by the license. UPPCO should schedule a meeting with MDEQ, MDNR, and USFWS in May or early June to provide information on current elevations of both the SLSB and the DRSB. This approval will be valid only for this year as an experiment, with the hope that the new start of month target elevations will limit reservoir fluctuations during freezing conditions.

Mr. Virgil Schlorke
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The MDEQ appreciates the opportunity to comment on UPPCO's proposal. If you have any questions, please contact me at 517-284-5541; ouna@michigan.gov; or MDEQ, Water Resources Division, P.O. Box 30458, Lansing, Michigan 48909-7958.

Sincerely,

A handwritten signature in black ink, appearing to read 'Amira Oun', is written over a light blue rectangular background.

Amira Oun, Environmental Engineer
Surface Water Assessment Section
Water Resources Division

cc: Ms. Elle Gulotty, MDNR
Mr. Scott Hicks, USFWS, E. Lansing
Mr. Shawn Puzen, Mead & Hunt
Mr. Gary Kohlhepp, MDEQ/ Section 401 File



United States Department of the Interior



FISH AND WILDLIFE SERVICE

2651 Coolidge Road, Suite 101
East Lansing, Michigan 48823-6360

IN REPLY REFER TO:

December 11, 2018

Mr. Josh Ball
Upper Peninsula Power Company
1002 Harbor Hills Drive
Marquette, MI 49855

RE: Proposed Temporary Amendment to Operate the Dead River Hydroelectric Project January 2019 through December 2019

Dear Mr. Ball:

Thank you for the Upper Peninsula Power Company's (UPPCO) efforts to identify ways to provide for the required bankfull flow (channel forming) releases and to address water quality concerns associated with the Dead River Hydroelectric Project. As described in your December 4, 2018, letter, UPPCO is proposing to make operational changes for 2019 to support both a bankfull flow release during the spring and improved water quality downstream of the Dead River Storage Basin during July and August.

The Michigan Department of Natural Resources and the Michigan Department of Environmental Quality have provided detailed recommendations to help ensure that there is sufficient information to evaluate the efficacy of the temporary operational changes and to also minimize the potential negative impacts. We request that their detailed recommendations be fully incorporated into the temporary amendment. We also recommend that UPPCO coordinate closely with other stakeholders well in advance of the modifications if adopted to ensure that they are fully informed that the temporary amendment is intended solely to test their efficacy for providing the required channel forming releases and addressing water quality issues.

Please let me know if you have any questions or need additional information, my e-mail: Scott_Hicks@fws.gov and direct phone: (517) 351-6274.

Sincerely,

SCOTT HICKS Digitally signed by SCOTT HICKS
Date: 2018.12.11 14:51:20 -05'00'

Scott Hicks
Field Supervisor

cc: Elle Gulotty, MDNR
Amira Oun, MDEQ