Appendix A – Comments on NOI, PAD, & Study Requests

Document Accession #: 20210317-3003 Filed Date: 03/17/2021

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
March 17, 2021

OFFICE OF ENERGY PROJECTS

Project No. 15055-000 – Wisconsin
Gile Flowage Storage Reservoir Project
Northern States Power Company-Wisconsin

VIA FERC Service

Mr. Matthew J. Miller
Hydro License Compliance Consultant
Northern States Power Company-Wisconsin
1414 West Hamilton Avenue; P.O. Box 8
Eau Claire, Wisconsin 54702

Reference: Comments on Preliminary Study Plans, Request for Studies, and Additional Information

Dear Mr. Miller:

After reviewing the Gile Flowage Storage Reservoir Project's Pre-Application Document filed with the Commission on November 17, 2020, we have determined that additional information is needed to adequately assess potential project effects on environmental resources.[1] We have included two study requests (enclosed in Schedule A) for shoreline stability and recreation use and facility inventory; and recommend that Northern States Power Company-Wisconsin (Northern States Power) consider our comments on one of the preliminary proposed studies (enclosed in Schedule B). We also have additional information needs (enclosed in Schedule C). Please provide the requested additional information when the proposed study plan is filed, which must be filed by May 1, 2021, unless otherwise noted.

Please include a master schedule in the proposed study plan that includes the steps for conducting each proposed study (i.e., data collection, data analysis, consultation, and report preparation), the distribution of progress reports, the filing date of the initial study report, and the date of the initial study report meeting. If, based on the study results, Northern States Power is likely to propose any plans for measures to address project

[1] Due to the proclamation declaring a National Emergency concerning the Novel Coronavirus Disease (COVID-19), issued by the President on March 13, 2020, we waived section 5.8(b)(viii) of the Commission's regulations and did not conduct a public scoping meeting and site visit for the project.

effects, drafts of those plans should be filed with the Preliminary Licensing Proposal (or draft license application).

Please note that we may, upon receipt and review of scoping comments/study requests from other entities due March 17, 2021, as well as Northern States Power's proposed study plan, request additional studies or information at a later time.

If Northern States Power has any questions, please contact Lee Emery at (202) 502-8379, or via e-mail at lee.emery@ferc.gov.

Sincerely,

Janet Hutzel

Janet Hutzel, Chief
Midwest Branch
Division of Hydropower Licensing

Enclosures: Schedule A
Schedule B
Schedule C

Schedule A

Study Requests

After reviewing the information in the Pre-Application Document (PAD), we have identified information that is needed to assess project effects. As required by section 5.9 of the Commission's regulations, we have addressed the seven study request criteria in the study requests that follow.

Shoreline Stability Study

§5.9(b)(1) – *Describe the goals and objectives of each study proposal and the information to be obtained.*

The goal of this study is to identify areas of erosion, mass soil movement, slumping, or other forms of instability of the shoreline of the project reservoir and the shoreline of the West Fork Montreal River downstream of the project dam. The information obtained would inform an analysis of project-related effects on aquatic, terrestrial, and cultural resources, and determine how project effects can be avoided, minimized, or mitigated.

§5.9(b)(2) – *If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.*

Not applicable.

§5.9(b)(3) – *If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.*

Sections 4(e) and 10(a) of the Federal Power Act (FPA) require the Commission to give equal consideration to all uses of the waterway on which a project is located, and what conditions should be placed on any license that may be issued. In making its license decision, the Commission must equally consider the environmental, recreational, fish and wildlife, and other non-developmental values of the project, as well as power and developmental values.

Project operation affects water level and flow patterns in both the project reservoir and in the West Fork Montreal River downstream of the project dam, which may affect several environmental resources. Understanding the project's influence on shoreline erosion in the reservoir, and in the affected reach of the river immediately downstream of the project dam, is essential in understanding the effects project operation may have on environmental resources; and therefore, is relevant to the Commission's public interest determination.

§5.9(b)(4) – *Describe existing information concerning the subject of the study proposal, and the need for additional information.*

The PAD provides a discussion of the shoreline conditions of the project reservoir in the context of ownership, existing native riparian vegetation buffers and local shoreline regulations and concludes that these factors reduce the likelihood of erosion. However, the PAD did not contain any information that describe the existing condition and stability of the shoreline. Therefore, there is no adequate existing information for us to assess project effects on shoreline stability. Northern States Power Company-Wisconsin (Northern States Power) states that in lieu of proposing a study specific to shoreline erosion, they propose to conduct a shoreline survey of the project to search for previously unidentified archaeological sites along currently eroding shoreline areas. Northern States Power states that currently eroding shoreline areas would be identified as part of that study. Although it is possible that a byproduct of the proposed archeological study might yield information that could be used to describe the existing condition and stability of the shoreline, a dedicated shoreline stability study would ensure that appropriate techniques are used by professionals trained to identify shoreline instability, as well as the potential cause of the instability. Therefore, in the absence of a dedicated shoreline stability study, we cannot ensure that the proposed archeological study would provide information necessary for us to assess project effects to shoreline stability of the project reservoir and of the river downstream of the dam.

§5.9(b)(5) – *Explain any nexus between project operations and effects on the resource to be studied, and how the study results would inform the development of license requirements.*

Project operation affects water surface elevations and the flow patterns in both the reservoir and in the river downstream of the dam, which may result in erosion of the shoreline. A shoreline stability study would allow the identification of specific areas where the shoreline condition requires measures to reduce or eliminate the effects of project operation as well as the potential cause of the instability. The results of this study would provide the information necessary to determine how project effects can be avoided, minimized, or mitigated.

§5.9(b)(6) – *Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.*

A field investigation would identify areas that have characteristics of erosion, mass soil movement, slumping, or other forms of instability. The field investigation should include criteria that would be used to assess the condition of the shoreline, methods and procedures that describe how the criteria would be used during the field

investigation to assess instability, data collection forms, and photographic records. A report would be prepared to document the results of the field investigation. The report would include study area, methods, analysis, results, discussion, conclusions, an estimate of flow in the river, and detailed maps of all areas determined to be unstable or have evidence of erosion.

§5.9(b)(7) – *Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

The estimated cost of this study is approximately $20,000, which includes study plan preparation, field investigation, and report preparation.

Recreation Use and Facility Inventory Study

§5.9(b)(1) – *Describe the goals and objectives of each study proposal and the information to be obtained.*

The goal of this study is to gather existing information on recreation facilities, recreational use, and potential project effects to determine existing and future recreation use and capacity at the project.

The objectives of the study should include the following:

(a) identify the condition of all informal and formal recreation sites and facilities within and or adjacent to the proposed project boundary, including any erosion that may exist due to recreational use;

(b) determine the current and projected capacity at each recreation site and / or facility;

(c) identify who owns, operates, and maintains each recreation site and / or facility;

(d) describe each recreation site and or facility in relation to the proposed project boundary; and

(e) conduct visitor surveys during the recreation season to determine the adequacy of existing recreation facilities and if changes or upgrades to the sites would be needed to meet current or future recreation needs.

§5.9(b)(2) – *If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.*

Not applicable.

§5.9(b)(3) – *If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.*

Sections 4(e) and 10(a) of the FPA require the Commission to give equal consideration to all uses of the waterway on which a project is located, and what conditions should be placed on any license that may be issued. In making its license decision, the Commission must equally consider the environmental, recreational, fish and wildlife, and other non-developmental values of the project, as well as power and developmental values.

There are a number of public recreational opportunities within and adjacent to the project. Understanding the condition of the existing recreation sites and facilities, the amount of current and projected future use, and how these sites and facilities are managed is essential in determining the adequacy of existing recreation facilities to meet current and future recreation needs; and therefore, is relevant to the Commission's public interest determination.

§5.9(b)(4) – *Describe existing information concerning the subject of the study proposal, and the need for additional information.*

The PAD provides a discussion of existing recreation facilities and sites within and adjacent to the proposed project boundary. However, the PAD does not include a detailed description of the condition of each recreation site and facility and it is unclear how much use each site receives. Therefore, in the absence of survey details, we cannot determine that the existing information is adequate for us to assess the adequacy of existing recreation facilities to meet current and future demand.

Detailed information on the condition of recreation facilities, current use, and whether existing access facilities in the area are meeting recreation demand would inform a decision on whether additional public access and / or facilities at the project are necessary to meet existing and future recreation demand at the project.

§5.9(b)(5) – *Explain any nexus between project operations and effects on the resource to be studied, and how the study results would inform the development of license requirements.*

Recreation is a recognized project purpose under section 10(a) of the FPA. If Northern States Power is expected to undertake measures throughout any license term, such as maintenance with respect to recreation facilities that the Commission has determined are necessary for project purposes, the Commission consequently would have ongoing responsibility to ensure compliance and that those facilities meet recreation demand over the term of any original license.

§5.9(b)(6) – *Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally*

accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

To determine the condition of existing recreation facilities at the project, and whether or not those facilities are adequate to meet existing and future recreation demand at the project, a recreation facility inventory should be conducted in combination with a recreation use survey to be administered to visitors at existing recreation sites. Additionally, recreation user spot counts should be conducted while the recreation use survey is being distributed.

Recreation Use Surveys

A schedule should be developed for the distribution of the recreation use surveys at existing recreation sites within the proposed project boundary. All sampling days should be randomly selected and survey routes should be completed on a rotating basis and at different times of day to account for time-of-day use patterns. These counts should last for at least two hours per site on each day and should be conducted on four (4) days per month which should include two (2) randomly selected weekdays and two (2) randomly selected weekend days. If a month contains a three-day holiday weekend, one (1) day per holiday weekend should be included in addition to the standard survey days. The recreation use survey should occur during the recreation season to capture recreational use occurring while the various project facilities are open to the public.

The recreation use survey should be administered to users to gain user opinions with regard to the existing recreation facilities and opportunities. The survey should record the number of people in a party, their primary reason (recreational activity) for visiting the project, their perception of level of use, and their opinions with regard to the amount and types of recreation opportunities offered within the proposed project boundary.

Spot Counts

Spot counts should also be conducted on survey days. The spot counts represent short-term counts (approximately 5 minutes per site) and should record the number of vehicles parked at a site/facility and the number of users observed. This information should be statistically analyzed to develop the recreational use figures for the project. Final recreation use for existing recreation facilities and sites at the project should be summarized by season and activity type for each site.

Facility Inventory

The inventory of recreation facilities and sites should include the following: (1) the location of facilities in relation to the proposed project boundary; (2) the types and number of amenities provided at each site and facility; (3) the condition of the facility / amenities; (4) identification of whether the facility is a proposed project or non-project recreation facility; (5) the entities responsible for the operation and maintenance of each

facility; (6) hours / seasons of operation; (7) accompanying photographs; and (8) the minimum water elevation at which existing recreation features, including public boat ramps, docks, piers or landing points within the project reservoir and its islands would be accessible or operable under the current proposal.

Additionally, field investigations at each recreation site should identify areas that have characteristics of erosion, slumping, or other forms of instability. The field investigation should include an assessment of instability and photographic records.

Report Preparation

Northern States Power would prepare a report that includes information on the number of recreation days spent at existing recreation sites, average number of persons per party, and a determination of the percent of each facility's capacity that is currently being utilized. The above information should be entered into spreadsheets for statistical analysis.

The report should also include a facility inventory including the following: (1) the location of facilities in relation to the proposed project boundary, including facilities / amenities that may straddle the proposed project boundary; (2) the types and number of amenities provided at each facility; (3) the condition of the facility / amenities; (4) identification of any erosion at each recreation site; (5) identification of all proposed project and non-project recreation facilities; (6) entities responsible for the operation and maintenance of the facilities; (7) hours/seasons of operation; (8) photographs; (9) use figures for each recreation site, overall recreational use figures, and projected use figures; (10) a compilation of responses to the recreation use survey; (11) a discussion of whether proposed project operation would lower the reservoir level below the minimum water elevation at which existing public boat ramps, piers, docks or landing points within the project reservoir and its islands would be accessible or operable and, if so, how often and for how long these feature or sites would be inaccessible or inoperable; and (12) a discussion of whether proposed project operation would lower the reservoir level below the minimum water elevation at which in-water recreation, such as boating, swimming, and recreation on the islands, would be affected, and, if so, how often and for how long these activities would be affected.

The methods described above are consistent with generally accepted methods for conducting a recreation use survey in addition to user spot counts to determine recreation use and capacity data at the project.

§5.9(b)(7) – *Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

The estimated cost of this study is approximately $50,000, which includes study plan preparation, field investigation, and report preparation.

Schedule B

Comments on Preliminary Study Plans

Based on our review of the preliminary study plans outlined in Northern States Power Company-Wisconsin's (Northern States Power) Pre-Application Document (PAD), we request the following modifications. Please address our requests in the proposed study plans.

Cultural Resources Study

1. In section 5.2, of the PAD, *Potential Studies or Information Gathering,* Northern States Power proposes to consult with the Wisconsin State Historic Preservation Officer (Wisconsin SHPO) to determine if project facilities need to be evaluated for National Register of Historic Places (National Register) eligibility and to conduct a shoreline survey to evaluate archaeological resources at the project. However, details of the methodology, analysis of the data, and schedule for conducting the survey are not included in the study proposal. No recent inventories have been conducted in the project area; therefore, there may be unknown historical or archeological sites that may be affected by project operation and maintenance. Therefore, a Phase I archaeological survey of the project's Area of Potential Effects (APE) should be conducted. Also, as part of the proposed study, and prior to any surveys conducted, Northern States Power should consult with the Wisconsin SHPO, federally-recognized Tribes who have an active interest in the project, and any interested parties.

Please include the following in the study proposal for cultural resources:

(a) a description of the project;

(b) a defined APE for the project that would include all lands and waters enclosed by the proposed project boundary and any other lands or properties outside the proposed project boundary where project operation may affect historic properties. Also include: (1) a detailed map showing all aspects of the APE in relation to the proposed project boundary;[2] (2) a background section on previous work in and around the APE; and (3) a cultural history of the area;

(c) survey methodology, including: (1) areas to survey for archaeological and / or historic resources relative to the defined APE;[3] and (2) an evaluation of cultural resources within the APE, and the project itself, for National Register-

[2] Once the APE is defined, please submit the APE definition and APE map to the Wisconsin SHPO and seek its concurrence.

[3] Lands that are highly disturbed are less likely to contain cultural resources, and may not need to be surveyed.

eligibility; and (3) site- or resource-specific descriptions of existing and potential project-related effects on historic properties;

(d) survey results and concurrence from the Wisconsin SHPO and any interested federally-recognized Tribes on the results of the survey; and

(e) a record of consultation with the Wisconsin SHPO, interested federally-recognized Tribes, and other interested parties regarding the proposed study, results and APE, and related concurrence letters.

In the event that any historic properties would be adversely affected by project operation or maintenance, Northern States Power would need to develop a draft Historic Properties Management Plan (HPMP) to avoid, lessen, or mitigate for any project-related adverse effect on National Register-eligible properties. A draft HPMP should be developed after consultation with the Wisconsin SHPO, the federally-recognized Tribes who have an active interest in the project, and interested parties, and filed with the Preliminary Licensing Proposal (or draft license application).

The draft HPMP should, at a minimum, address the following elements:

(a) identification of the APE for the project and inclusion of a map or maps that clearly show the APE in relation to the proposed project boundary;

(b) completion, if necessary, of identification of historic properties within the project's APE; continued use and maintenance of historic properties;

(c) treatment of historic properties threatened by project-induced shoreline erosion,[4] other project-related ground-disturbing activities, and vandalism;

(d) consideration and implementation of appropriate treatment that would minimize or mitigate unavoidable adverse effects on historic properties;

(e) treatment and disposition of human remains that may be discovered, taking into account any applicable State laws and the Advisory Council's "Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects," February 23, 2007, and the Native American Graves Protection and Repatriation Act (25 U.S.C. section 3001);

(f) discovery of previously unidentified properties during project operation;

(g) public interpretation of the historic and archaeological properties at the project;

(h) a list of activities (i.e., routine repair, maintenance, and replacement in kind at the project) not requiring consultation with the Wisconsin SHPO because these activities would have little or no potential effect on historic properties;

---

[4] Project-induced shoreline erosion does not include shoreline erosion attributable to flood flows or phenomena, such as wind driven wave action, erodible soils, and loss of vegetation due to natural causes.

(i) a procedure to address effects on historic properties in the event of a project emergency; and

(j) a review of the HPMP by the applicant, the Wisconsin SHPO and consulting parties to ensure that the information continues to assist the applicant in managing historic properties and updating the HPMP based on agency and tribal consultations.

Schedule C

Additional Information

General

1. The Notice of Intent (NOI) states that it is Northern States Power Company-Wisconsin's (Northern States Power) intent to file an application for an original minor license for the Gile Flowage Storage Reservoir Project (Gile Project or project). Northern States Power states that the project is a headwater storage reservoir that augments flow in the West Fork Montreal River during periods of low flow for generation of electricity at the downstream Saxon Falls Hydroelectric Project (P-2610) and Superior Falls Hydroelectric Project (P-2587). These two projects have a combined generating capacity of 3.150 megawatts (MW), which exceed the capacity to obtain a minor license. Therefore, please ensure that Northern States Power's license application conforms to the requirements of a major water project of 5 MW or less.

2. The Pre-Application Document (PAD) in section 4.1.3, *Major Water Uses*, states that the combined capacity of the Superior Falls and Saxon Falls hydroelectric projects is 3.250 MW. As described in the previous information request, these two projects have a combined generating capacity of 3.150 MW. Please confirm the combined generating capacity of the Superior Falls and Saxon Falls hydroelectric projects.

3. The PAD in table 2.1-1, states that it is FERC's goal to issue the new license before the current license expires. However, because there is no current license for this project, Northern States Power is applying for an original license. Additionally, throughout the PAD Northern States Power refers to the relicensing process rather than the process to obtain an original license. Therefore, in all future filings please exclude any reference to a current license for, or relicensing of, the Gile Project.

4. The NOI in section 5, *Principal Project Works and Project Description*, provides the datum of the elevations as National Geodetic Vertical Datum 1929. However, the elevations provided in the PAD do not specifically reference a datum. Therefore, in all future filings please include the datum when presenting an elevation. For the purpose of this letter, when referencing elevations presented in the PAD, we omit the datum reference.

Project Facilities

5. In a letter issued on February 26, 2021, we notified Northern States Power that we have determined that the project would require a supporting design report. Please make sure to include the following information in the supporting design report for the Gile Project in the final license application.

    a. All applicable construction drawings, design drawings, soil borings, geotechnical data, construction modification history, stability analyses,

hydrologic and hydraulic analysis, rating curves, and other information needed to ensure that the project continues to operate safely.

b. An inflow design flood study conducted according to Chapters 1 and 2 of the Commission's Engineering Guidelines.[5] The inflow design flood study should include: (1) an incremental hazard evaluation to determine the effects on downstream structures in the event of a dam failure; (2) a determination of the project's inflow design flood study; and (3) an assessment of the adequacy of the project's spillway capacity.

c. For the right and left project earthen embankments of the project dam, provide a discussion of: (1) the composition of the earthen fill material contained in each embankment, (2) whether the embankments were engineered and constructed in place or modified from a previously constructed embankment, (3) the composition of the materials contained in the foundation, (4) the upstream and downstream embankment slopes, (5) the sheet pile wall material, (6) whether a chimney drain is present as part of the vitrified clay drainage system, and (7) whether wave run-up calculations were used to determine the extent of the riprap placement on the upstream embankment slope.

d. For the concrete spillway section, provide a discussion of: (1) whether a gallery is present in the hollow concrete Tainter gate bay structure, (2) the foundation under the portion of the concrete section that is not founded on timber piles, (3) whether the sluice gate can be operated manually, (4) the spillway capacity, (5) the date of the last detailed inspection of the riveted steel Tainter gate, (6) the data used to determine that the 10 cubic foot per second (cfs) minimum flow released from the sluice gate approximates the natural inflow into the project reservoir, (7) whether the block used in the sluice gate to provide the minimum flow is removable, (8) whether the sluice gate can be fully closed and sealed, (9) the dimensions of the stilling basin, and (10) whether baffle blocks are present in the stilling basin.

e. Describe any existing instrumentation used in the monitoring of dam safety including: staff gages, piezometers, weirs, survey monuments, and telemetry for flow (headwater, tailwater).

f. A copy of the 2016 Ayres Associates Consultant Safety Inspection Report.[6]

6. The PAD in section 3.2.1.1, *Dam*, states that the sluiceway bay includes a vertical slide gate. However, the same paragraph mentions that the sluiceway bay includes a

---

[5] Available at: https://www.ferc.gov/industries-data/hydropower/dam-safety-and-inspections/eng-guidelines.

[6] Ayres Associates. 2016. 2016 Consultant Safety Inspection Report, Gile Reservoir Dam, Iron County, Wisconsin, WDNR Field File No. 26.09. October 2016.

sluice gate. It is not clear whether there are two gates in the sluiceway bay. If there are two separate gates in the sluiceway bay, please provide a separate description for each. If there is one gate in the sluiceway bay, in all future filings please refer to this gate by a single name.

7. The PAD in section 3.2.2, *Project Boundary*, states that Northern States Power owns most submerged lands in fee title or has obtained flowage rights for these submerged lands. Please identify who owns or has flowage rights for the remaining submerged lands and where are these lands located.

Project Operation

8. The PAD in section 3.3.1, *Current Operation*, states that the maximum pool elevation is 1,490.0 feet and the minimum pool elevation is 1,475.0 feet. Please provide the normal pool elevation of the reservoir and the normal water surface elevation of the tailwater.

9. The PAD in section 3.3.1, *Current Operation*, states that operators maintain the dam and make necessary gate changes. However, the PAD does not state the reason for the gate changes and whether the gate changes are made to the vertical slide gate, sluice gate, Tainter gate or some combination of gates. Therefore, please state the reason for the gate changes and whether the gate changes are made to the vertical slide gate, sluice gate, Tainter gate or some combination of gates. Also, please describe the factors that affect which gates are used.

10. The PAD in section 3.3.1, *Current Operation*, does not describe how the operators determine how much flow is needed at the downstream Saxon Falls and Superior Falls Projects. Without any streamflow gages in the either the West Fork Montreal River or Montreal River it is unclear how operators determine the flow needed to be released from the project reservoir to augment the flow in the Montreal River. Therefore, please describe how operators determine the amount of flow to be released from the reservoir needed to operate the downstream Saxon Falls and Superior Falls Projects.

11. The PAD in section 3.3.1, *Current Operation*, does not describe how the storage volume in the project reservoir is allocated to ensure adequate storage is available throughout the summer and winter low-flow periods required to operate the downstream Saxon Falls and Superior Falls Projects. Therefore, please describe whether the flow rate released from the reservoir is tied to the reservoir level and, if it is, please describe this relationship. Also, please describe how the allocation of the storage volume in the project reservoir varies between a wet, average and dry year.

12. The PAD in section 3.3.1, *Current Operation*, does not describe operation during freezing conditions. Please describe how gates are operated during freezing conditions.

13. The PAD in section 3.3.1, *Current Operation*, states that Wisconsin Public Service Commission issued an order on August 26, 1937, authorizing construction of the Gile Project dam and set the maximum pool elevation at 1,490.0 feet. The PAD goes on to say

that Northern States Power's records include a "gentleman's agreement" allowing for a maximum drawdown of 15 feet for the project reservoir to an elevation 1475.0 feet. It is not clear whether the "gentleman's agreement" is contained in the Wisconsin Public Service Commission's order. If the "gentleman's agreement" is not in the Wisconsin Public Service Commission's order, please describe whom this "gentleman's agreement" was made with and when the agreement was made.

14. The PAD in section 3.3.1, *Current Operation*, states that a minimum flow of 10 cfs has historically been passed downstream of the project dam in accordance with an agreement with the village of Montreal. Please describe when this agreement with the village of Montreal was made and the factors that made this agreement necessary.

15. The PAD in section 3.4.1, *Current License Requirements*, states the Wisconsin Public Service Commission issued an Order in 1937 authorizing construction, operation, and maintenance of the Gile Project dam to augment river flows during summer and winter low-flow periods for hydroelectric generation downstream. Other than setting the maximum pool elevation at 1,490.0 feet, please describe if the Wisconsin Public Service Commission's order mandates any other requirements, and if so, describe these requirements.

16. The PAD in section 3.4.2, *Compliance History*, states there is no history of non-compliance. Please describe the state, local, or other requirements with which the operation of the project must operate, which requirements the project must comply with, and the entity mandating requirements for the project.

17. The PAD in section 4.1, *General Description of the Project Area*, states the project is regulated by the State of Wisconsin. Please describe the State of Wisconsin's current regulatory requirements as they relate to the project, and how these requirements affect current project operation.

18. The PAD in section 3.4.3, *Summary of Project Generation and Flow Records*, has a footnote of table 3.4.3-1 that states that the average outflow, from the project, as measured at the Gile U.S. Geological Survey (USGS) Gage No. 40299000. We can find no reference on the USGS Internet site for Wisconsin or Michigan to gage No. 40299000. Please provide the location and period of record for gage No. 40299000.

Description of the Project Area

19. The PAD in section 4.1, *General Description of the Project Area*, states the Montreal River flows approximately 18 miles from its headwaters northwesterly until it meets with the West Branch Montreal River and then continues westerly for an additional 35 miles. However, figure 4.1-1 shows that the portion of the Montreal River upstream of the confluence with the West Fork Montreal River is significantly longer than the portion of the Montreal River downstream of the confluence. Please reconcile the distances provided in the first paragraph of section 4.1 and figure 4.1-1.

Aquatic Resources

20. The PAD in section 4.3.2, *Streamflow, Gage Data, Flow Statistics*, states that monthly flow duration curves for the project were developed based on data recorded at USGS gage no. 04029990. This gage is located on the Montreal River about 21 miles downstream of the project immediately downstream of the Saxon Falls powerhouse and includes flow contributions from both the West Fork Montreal River and Montreal River. We understand the PAD to say that flow at the project was developed based on the ratio of the drainage area at the project dam and at the USGS gage. However, the stated purpose of the Gile Project is to augment flow in the West Fork Montreal River during low flow periods for generation at the Saxon Falls and Superior Falls Projects. Therefore, depending on whether the project reservoir is augmenting or storing flow, flow released from the reservoir would not be related to the unregulated flows in the Montreal River. For example, when the project is augmenting flow, the unregulated unit discharge[7] in the Montreal River would be less than the unit discharge released from the reservoir. When the project is storing flow, the unregulated unit discharge in the Montreal River would be greater than the unit discharge released from the reservoir. Therefore, when the project is either augmenting the flow in the West Fork Montreal River or storing flow, flow in the West Fork Montreal River released from the project dam would have little relation to the unregulated flows in the Montreal River. Given that the USGS gage includes flow contributions from both the West Fork Montreal River and Montreal River, the data from the USGS gage at Saxon Falls would not characterize flow in either the Montreal River or the West Fork Montreal River when the project is either augmenting the flow in the West Fork Montreal River or storing flow. Therefore, please provide additional details as to how the flow records, from the USGS gage at Saxon Falls, can be used to accurately characterize outflows from the project reservoir, which are necessary to develop monthly flow duration curves for the project.

21. The PAD, on page 12, indicates that the project reservoir encompasses an area of about 3,317 acres and has a maximum depth of 25 feet. A bathymetric map of a small portion of the project reservoir near the project dam,[8] shows an area of about 1,000 square feet that has an elevation of less than 1,468 feet, which provides a depth from maximum pool elevation of 22 feet. Because the reservoir is annually drawn down an average of around 7 feet in the winter,[9] the loss of significant volumes of water could concentrate young fish and increase their vulnerability to predation and could contribute to poor overwinter survival. Also, if the reservoir is shallower than 10 feet deep, a drawdown of

[7] Unit discharge is the flow rate divided by the drainage area.

[8] See PAD filed on December 30, 2019 for the Saxon Falls (P-2610) and Superior Falls (P-2587) Projects, which includes Gile Project information for the bathymetric map in Appendix 4.3.6.2-1.

[9] The maximum drawdown in the winter identified in the PAD was 10.9 feet.

7 feet in the winter could adversely affect fish by causing winterkills[10] of fish. Therefore, please provide an estimate of the surface area of the reservoir that corresponds to a water depth of 10 feet or less and whether winterkills of fish occur in the reservoir, and if so, how frequently they occur. In addition, please provide the surface area of the reservoir at the maximum summer and winter drawdowns.

22. There are three brief mentions of mussels in the PAD on pages 35, 40, and 41. None of the mussels were definitively identified as being present in project waters. One reference refers to two mussels and the other two references refer to two mussels as part of a table entitled *Selected Regulated Aquatic Invasive Species in Wisconsin*, which included other aquatic organisms. Page 35 refers to two mussels, the Cylindrical papershell and Eastern elliptio, that had been reported in the nearby Montreal River. These two species are members of the Unionidae family of mussels (commonly called pearly mussels, naiads, or unionids) and are widely dispersed. Please state if these two species are present in project waters or if their ranges include project waters.

23. Furthermore, the discussion and reference to these two mussels in the PAD cites a Wisconsin Department of Natural Resources (Wisconsin DNR) web site as a source of information about the two mussels. However, the web site is no longer available and we are unable to determine if the site contained information about the occurrence of these two mussels in project waters. Please provide information about the presence, if any, of these two mussels in project waters and the complete information about the two mussels that was contained in the cited reference.

24. On pages 40 and 41 of the PAD, figures 4.5.3-1a and 4.5.3-1b: *Selected Regulated Aquatic Invasive Species in Wisconsin*, lists the invasive Quagga mussel and Asian clam as present in Wisconsin waters of the state. However, there is no statement in the PAD identifying if these two species are or are not present in project waters. Therefore, please state if these two species are in project waters and the sources of information.

25. It is unclear in the PAD how Northern States Power determined if mussels were present in project waters. Please describe if the collection of information about the presence of mussels in project waters was based entirely on a literature search, included any on-site mussel sampling, or if it also involved collecting information from other local entities (e.g., local interest groups or organizations) that might have information on mussels in the area.

---

[10] Winterkill is a term used to describe the loss of fish in the winter caused by a reduction of oxygen in a waterbody. Submerged vegetation and algae present in a waterbody create oxygen through the process of photosynthesis. During the winter, particularly in smaller and shallow water bodies, oxygen production is often reduced because snow and ice cover on the lakes and reservoirs occurs for extended periods of time limiting the amount of sunlight reaching the submerged vegetation, thus, the oxygen levels in the water become so reduced that some fish suffocate and die.

Terrestrial Resources

26. Section 4.5.3 of the PAD, *Invasive Species*, references three invasive invertebrate species in the project reservoir. However, no information regarding location and abundance of invasive plants has been provided, and Wisconsin DNR's Lakes and Aquatic Invasive Species mapping tool indicates the presence of curlyleaf pondweed, Eurasian water milfoil, and purple loosestrife in Iron County. Please provide any available information, including historic and contemporary observations, location, and approximate abundance of invasive plants in the project area.

Recreation and Land Use Resources

27. Section 4.9, *Aesthetic Resources*, of the PAD describes several area waterfalls; however, it does not include Gile Falls, which appears to be immediately downstream of the project dam. So that we may analyze the potential effects of the project on recreation and aesthetic resources in the project area, please include a map showing the locations of Gile Falls and discuss any recreation facilities, activities or features associated with the falls. Also include a discussion of how proposed project operation would affect flows over Gile Falls, including if operation result in dewatering the falls, and provide, if known, data on the flow rate that pass through the falls both when flow is being stored in the reservoir and when the reservoir is releasing flows to help operate the downstream Saxon Falls and Superior Falls Projects.

28. Section 4.8, *Recreation and Land Use*, of the PAD describes several recreation sites in the proposed project boundary; however, it does not include a discussion of the islands located in project reservoir. To help us determine the potential effects of the project on recreation resources, please identify who owns the islands and describe any formal or informal recreation activities and facilities on the islands, including who owns, operates, and maintains the recreation facilities.

Document Content(s)

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
3537 NE 87th St.
Seattle, WA 98115
okeefe@americanwhitewater.org

March 17th, 2021

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Re: COMMENTS on Pre-Application Document and Proposed Study for the Gile Flowage Storage Reservoir Project (P-15055).

Dear Secretary Bose:

Enclosed for filing in the above-referenced proceeding are Comments of American Whitewater on the Pre-Application Document and Proposed Study for the Gile Flowage Storage Reservoir Project.

Thank you for your assistance. Please call if you have any questions or need additional information. I can be reached at 425-417-9012.

Sincerely,

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Northern States Power Company	)	Docket No. P-15055
d/b/a Xcel Energy	)	
Eau Claire, Wisconsin	)	Gile Flowage Storage Reservoir Project

COMMENTS OF AMERICAN WHITEWATER ON THE PRE-APPLICATION DOCUMENT AND STUDY REQUEST

I. INTRODUCTION

American Whitewater hereby files comments pursuant to 18 CFR §5.9 on the Pre-Application Document filed by Northern States Power Company for a new license for the Gile Flowage Storage Reservoir Project, FERC Project No. 15055 (hereafter Project),[1] located on the West Branch Montreal River in Iron County, Wisconsin. In addition, we request a study of Integrated Analysis of Recreational Flows and River Access. American Whitewater has a documented interest in recreational opportunities on this river dating back more than 30 years and these opportunities are directly impacted by Project operations and have a project nexus. In addition to recreation, we have a strong interest in resource protection including fishery resources and riparian habitat. Our individual members who live in the region, and value the river for the recreational opportunities and its natural resources, have also filed several comments on related dockets for the Superior Falls Project (Project No. 2587) and Saxon Falls Project (Project No. 2610).[2]

II. STATEMENT OF INTEREST

American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954 with approximately 50,000 supporters, 6,000 dues-paying members, and 100

[1] Notice of Intent / Pre-Application Document of Northern States Power Company - Wisconsin for the Gile Flowage Storage Reservoir Project under P-15055. FERC eLibrary Submittal 20201117-5181, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14908061>.

[2] Comments of American Whitewater on the Pre-Application Document and Study Request under P-2587 et al. FERC eLibrary Accession Number: 20200609-5075, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14867525>.

local-based affiliate clubs, representing whitewater enthusiasts across the nation. American Whitewater's mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely. The organization is the primary advocate for the preservation and protection of whitewater rivers throughout the United States, and connects the interests of human-powered recreational river users with ecological and science-based data to achieve the goals within its mission. Our vision is that our nation's remaining wild and free-flowing rivers stay that way, our developed rivers are restored to function and flourish, that the public has access to rivers for recreation, and that river enthusiasts are active and effective river advocates. A significant percentage of American Whitewater members live in Wisconsin, Minnesota, and Michigan and make use of the recreational opportunities available on the West Branch Montreal.

American Whitewater has extensive experience in hydropower relicensing. We were a founding member and currently Chair the Hydropower Reform Coalition. We work with our coalition partners, state and federal agencies, tribes, and licensees to represent the public interest in hydropower relicensing. We have actively participated in more than 100 relicensing proceedings nationally, more than any other non-governmental organization. In the Midwest we were active stakeholders in several relicensing efforts including the following: Black River, Hatfield Dam (FERC P-10805); Chippewa River, Jim Falls (FERC P-2491); Fox River, Badger-Rapide Croche (FERC P-2677); Menominee River, Little Quinnesec (FERC P-2536); Ontonagon River, Bond Falls (FERC P-1864); Paint River, Lower Paint (P-2072); Peshtigo River, Johnson Falls (FERC P-2522); Pine River, Pine (FERC P-2486); Red River, Gresham (P-2484); St. Louis River, Cloquet (P-2363); Wisconsin River, Grandfather Falls (P-1966); and Wisconsin River, Rhinelander (P-2161).

American Whitewater filed extensive comments describing our interests on the docket for the Superior Falls Project (Project No. 2587) and Saxon Falls Project (Project No. 2610).[3] We reiterate these comments as they relate to the specific impacts of the Project on the West Branch Montreal River.

American Whitewater has a direct interest in river and riparian conservation and resource protection, water quality, appropriate public access to the river that protects resource values, and instream flows for the benefit of fishery resources, river and riparian condition, and recreation.

[3] Comments of American Whitewater on the Pre-Application Document and Study Request under P-2587 et al. 6/9/2020, Accession Number 20200609-5075, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14867525>.

Many articles and guidebook descriptions speak to the exceptional quality of the whitewater in the Montreal River basin including the West Branch Montreal. In his book *Northwoods Whitewater*, Jim Rada describes the "fine rapids" of the West Branch Montreal.[4] He goes on to describe the impacts of the Project on whitewater recreation and the fact that regulated flows from Gile flowage make this a hard run to catch with adequate water. The West Branch Montreal has regional and national significance and has been the site of national and international competitions, including the Pan American Cup races in 1984 and National Wildwater Championships in 1992.

The whitewater resources of this reach are well recognized by the whitewater boating community and known to the licensee. During the summer of 1997, American Whitewater initiated correspondence and spoke with Mark Foyt of Northern States Power to discuss our interest in improved access and improved information on Project operations and flows, which is essential for paddlers to understand when water is in the river. While Mr. Foyt made a commitment to improve accessibility to information on Project operations, he indicated that more substantial improvements to whitewater recreation could be addressed when the license for the Saxon Falls Project expired in 2019. In 2006, we discussed our plan to conduct a survey of instream flow needs for recreation on the West Branch Montreal with Robert Olson of Northern States Power to quantitatively evaluate optimal flows using a structural norm approach. At the time, Mr. Olson made no commitment to modify operations in response to our study, noting that this discussion would occur with relicensing of the Saxon Falls Project (P-2610).

In 2014, Northern States Power applied for extension of license term for the Saxon Falls Hydroelectric Project;[5] American Whitewater intervened in the proceeding and while we supported efforts to coordinate the license terms for the Saxon Falls Project (FERC Project No. 2610) and the Superior Falls Project (FERC Project No. 2587), we expressed concern with the fact that this would further delay an effort to address project impacts on recreation. We requested interim mitigation measures to include additional information on Project operations and hydrology to see what possibilities may exist for improving the recreational opportunities at the Project, including improved access to real-time flow information for project inflows (i.e. release from Gile Flowage that impacts whitewater recreation on the West Branch Montreal). Our request for interim mitigation measures for license extension was denied and the license term was extended.[6] Although this action further delayed an evaluation of project impacts on

---

[4] At page 91, Rada, J. 2003. Northwoods Whitewater. Sangfroid Press.

[5] Notice of application accepted for filing, soliciting comments, motions to intervene, and protests re Northern States Power Company under P-2610, FERC eLibrary Accession Number 20140804-3019, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14239832>.

[6] *Northern States Power Company – Wisconsin* 149 FERC ¶ 62,090 (2014), FERC eLibrary Accession Number 20141106-3021, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14268194>

whitewater recreation and various mitigation measures that could be implemented to address these impacts, the Commission ultimately concluded that our issues "would be more appropriately examined in the context of the relicensing proceeding."[7] Subsequently, the Commission determined that the Gile Flowage provides flow augmentation for the downstream Saxon Falls Project and the Superior Falls Project and is subject to the Commission's mandatory licensing jurisdiction as a separate Project.[8]

For the reasons described above, American Whitewater has a direct interest in this proceeding and our participation will enable a more complete record to be developed, and will lead to better informed decision making. All future correspondence to American Whitewater should use the contact information provided below.

Thomas O'Keefe
Pacific Northwest Stewardship Director
American Whitewater
3537 NE 87th St.
Seattle, WA 98115
Email: okeefe@americanwhitewater.org
Phone: 425-417-9012

III. COMMENTS

Pursuant to 18 CFR §5.9, American Whitewater provides these comments on the Preliminary Application Document organized by sections in the document.[9]

Section 4.8.1.6
We appreciate the acknowledgement of whitewater boating on the West Branch Montreal. This activity is flow dependent and directly affected by Project operations and release from Gile Flowage.

Section 5.1.2

[7] *Northern States Power Company – Wisconsin* 150 FERC ¶ 61,028 (2015). FERC eLibrary Accession Number: 20150122-3009, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14293502>
[8] *Northern States Power Company – Wisconsin*, 172 FERC ¶ 62,093 (2020), FERC eLibrary Accession Number: 20200819-3041, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14884518>.
[9] Notice of Intent / Pre-Application Document of Northern States Power Company - Wisconsin for the Gile Flowage Storage Reservoir Project under P-15055. FERC eLibrary Submittal 20201117-5181, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14908061>.

The Pre Application Document states that "there are no planned changes to operations, reservoir levels, or minimum flows that would cause adverse impacts to water resources at the Project."[10] We have an interest in considering protection, mitigation, and enhancement measures that would provide opportunities for whitewater recreation and could result in changes to Project operations.

Section 5.1.3

The Pre Application Document states that "there are no planned changes to operations, water levels, or flows that would cause new impacts to water resources."[11] We have an interest in considering protection, mitigation, and enhancement measures that would provide opportunities for whitewater recreation and could result in changes to Project operations.

Section 5.1.7

The Pre Application Document references parks and recreation sites managed by the town and county but states that "the Licensee is not proposing any recreational improvements."[12] We have an interest in considering protection, mitigation, and enhancement measures that provide opportunities for recreation at the Project. We support the study request of National Park Service for a Comprehensive Recreation Study to provide information necessary to consider recreation measures as part of a future license.[13]

IV. CONCLUSION

It is the Commission's policy with respect to recreational development at licensed projects to "seek, within its authority, the ultimate development of [recreational] resources, consistent with the needs of the area to the extent that such development is not inconsistent with the primary purpose of the project."[14] We believe a significant opportunity exists to address whitewater recreation at the Project.

Please do not hesitate to contact me if you have any additional questions.

---

[10] At Page 72, Notice of Intent / Pre-Application Document of Northern States Power Company - Wisconsin for the Gile Flowage Storage Reservoir Project under P-15055. FERC eLibrary Accession 20201117-5181, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14908061>.
[11] At Page 72, Ibid.
[12] At Page 73, Ibid.
[13] National Park Service Comments on Pre-application Document and Study Requests Gile Flowage P-15055, FERC eLibrary Accession Number: 20210317-5020, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14936916>.
[14] 18 CFR § 2.7

Respectfully submitted on March 17th, 2021.

Thomas O'Keefe, PhD
American Whitewater

Enclosure:
Study Request: Integrated Analysis of Recreational Flows and River Access

Study Request:
Integrated Analysis of Recreational Flows and River Access

American Whitewater submits the following study request for Integrated Analysis of Recreational Flows and River Access pursuant to 18 CFR § 5.9. This study request is similar to the request we filed on the docket for the Superior Falls Project (Project No. 2587) and Saxon Falls Project (Project No. 2610),[15] but limited to the West Branch Montreal.

Study Description and Objectives § 5.9(b)(1)
Describe the goals and objectives of each study proposal and the information to be obtained.

American Whitewater requests a controlled whitewater flow study on the West Branch Montreal. For this reach, the level of public interest and information already on the record renders a Desktop Analysis (Level 1) and Limited Reconnaissance (Level 2) inadequate to quantify flow dependent recreational opportunities.[16] While we support these steps in the process, an Intensive Study (Level 3) analysis will be necessary to inform future license conditions and we request a controlled flow study consistent with methodology established by Whittaker et al. 2005.[17]

- Montreal West Branch

  The study area econompasses the West Branch Montreal River from Gile Flowage to Highway 2 as identified in American Whitewater's National Whitewater Inventory.[18] American Whitewater completed a survey-based flow study (i.e. a study where users self report flows and respond to an online survey) in 2007 determining that 400-1000 cfs was the optimal range. While we concluded that a significant population of river users would prefer higher flow releases, we did not evaluate flows greater than 1000 cfs given our understanding of the limit to what Project operations could provide. We determined that while some individuals have run the river at these higher flows, these opportunities are limited and unlikely to be provided for during a controlled release. Based on the results of our study we proposed an optimum release schedule for a weekend of two releases that would begin with a release of 600 cfs on Saturday morning at 10 am and until 4 pm, and a second release day of 800-1,000 cfs on Sunday, which would begin at

[15] Comments of American Whitewater on the Pre-Application Document and Study Request under P-2587 et al. 6/9/2020, Accession Number 20200609-5075, https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14867525>.
[16] At Page 8, Progression of Study Options, in Whittaker, D., B. Shelby, J. Gangemi. 2005. Flows and Recreation: A Guide to Studies for River Professionals. Confluence Research and Consulting, <https://www.nps.gov/ncrc/programs/hydro/flowrec.htm>.
[17] Ibid.
[18] https://www.americanwhitewater.org/content/River/detail/id/2301/

10 am and end at 4 pm. If the release schedule had to be limited to one day we concluded a flow of 600-800 cfs should be released between 10 am and 4 pm on a Saturday. A limitation of this study was the fact that users self-reported their runs and in some cases estimating flows and scoring flows that they may not have actually experienced. The study provides a useful starting point but results need to be confirmed to be used as the basis for protection, mitigation, and enhancement measures for recreation in a new license.

Information gathered from guidebooks for the West Branch Montreal, information from the internet flow survey for the West Branch Montreal, and structured interviews with potential participants in a controlled flow study study can be used to choose the flows to evaluate in a controlled flow study. Project operations are known to affect whitewater boating on this river segment, and there is a strong recreational demand for using this reach. The objective of this study would be to improve the precision of estimated flow ranges for whitewater boating using a variety of flows. A quantitative optimal flow range is needed to help refine and inform the development of protection, mitigation, and enhancement measures. A better quantitative evaluation of flow could also help save costs due to generation loss in the future by preventing a higher flow than needed from being released during post-licensing implementation.

The controlled flow study will include an evaluation of at least three different flows. Information from guidebooks, the results of the West Branch Montreal study, and structured interviews with boaters that have used this reach will be used to determine the flows to be evaluated. A survey will be distributed after each of the flows as well as a close-out survey. A focus group discussion will be facilitated after boaters have run each of the flows as well. The controlled flow study could be conducted at a time of year when sufficient flows are available and weather conditions permit.

In addition to instream flow needs for recreation, we also request that public access to the river be evaluated.

Resource Management Goals § 5.9(b)(2)
If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied

Whitewater boating is a flow-dependent activity that occurs on the West Branch Montreal River. The river is of considerable interest to the regional whitewater boating community. The primary objective of this study is to quantitatively define the range of flows for whitewater recreation, and to determine the quality and type of experience that different flows provide. The data are necessary to balance recreation needs with needs for fishery resources, ecological

and geomorphic processes, power generation, and regulation of reservoir water elevation. Specifically there is a need to design the study to provide evaluative information.

Relevant Public Interest §5.9(b)(3)

If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;

The public has considerable interest in the opportunities for whitewater recreation on the West Branch Montreal. With a history of boating dating back decades, and regional recognition that the river represents a significant potential whitewater resource, a need exists to quantitatively define river-based recreational opportunities. Whitewater boating as a sport has grown substantially in the State of Wisconsin and nationally in the time since the current license was issued, and this trend is predicted to continue. The results of the study will be useful to the public that has an interest in protection, mitigation, and enhancement of recreational opportunities directly impacted by Project operations.

Existing Information §5.9(b)(4)

Describe existing information concerning the subject of the study proposal, and the need for additional information

Existing information regarding flow-based recreational opportunities is descriptive, which is insufficient to adequately evaluate the needs of river-based recreational opportunities in developing a new license for the project. Our 2007 report described the limitations of our analysis and explicitly stated that "considering this study's limitations, a follow up survey of participants is recommended subsequent to an initial whitewater release in order to obtain a more accurate instream flow-recreation relationship for the West Branch."[19] We had a similar situation on the Sultan River in the Henry M. Jackson Hydroelectric Project (P-2157); as in the case here, American Whitewater had collected preliminary information on instream flow needs but the Commission found this information insufficient for setting license conditions stating that "a controlled-flow study will help identify whitewater boating enhancement opportunities."[20]

An integrated analysis that includes a controlled flow study is required to quantitatively describe flow-dependent recreational opportunities in the Project area. Quantitative

---

[19] At Page 7, Stafford, E. and T. O'Keefe, 2007, West Branch Montreal River Internet Flow Study, October 2007, <https://www.americanwhitewater.org/content/Document/view/?id=243>.

[20] At Page 4, Staff comments on Jackson Hydroelectric Project Pre-application Document and Study Request, 3/30/2006, FERC eLibrary Accession Number 20060330-3002, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=4390650>.

information will help establish the role the Project plays in addressing instream flow needs and recreational management goals of the National Park Service and American Whitewater.

Nexus to Project §5.9(b)(5)

Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements

A clear project nexus exists between Project operations and recreational opportunities on the West Branch Montreal. The Project regulates allocation, timing, levels and distribution of water flows on West Branch Montreal of interest for whitewater recreation. This regulation influences the spatial and temporal availability of water for a variety of uses including power generation, fisheries, maintenance or riparian connectivity, and recreation. In addition to the downstream impacts, Project operations also impact water surface elevation of the reservoir. The results of this study will directly inform license requirements for recreation and instream flows.

Study Methodology §5.9(b)(6)

Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge

License applicants using the Integrated Licensing Process are directed to provide a "detailed description of the study and the methodology."[21]

The methodology we propose is generally accepted practice in federal hydropower licensing proceedings where project operations impact river-based recreation. Our proposal follows the integrated approach of Whittaker et al. (2005).[22] Their approach outlines three levels of studies: (1) Level 1 – desktop analysis, (2) Level 2 – limited reconnaissance, and (3) Level 3 – intensive studies (i.e. controlled flow study). The existence of flow-based recreational opportunities is well documented for this reach and this existing information will inform Level 1 and Level 2 analysis. While we support the stepwise process, the existence of flow-based recreational opportunities affected by the Project is known and the applicant should expect to complete Level 3 analysis.

[21] 18 CFR §5.11

[22] Whittaker, D., B. Shelby, J. Gangemi. 2005. Flows and Recreation: A Guide to Studies for River Professionals. Confluence Research and Consulting.

Methods for flow studies to evaluate recreational flow needs at federally-licensed hydropower projects have been peer reviewed.[23] The methodology has been employed in approximately 100 proceedings (e.g. Sultan River, Henry M. Jackson, P-2157)[24] including several reaches with existing commercial use.

Level of Effort and Cost §5.9(b)(7)

Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

The cost would be contingent on the consultants selected and their billing rate. In our experience these studies and the associated reporting do not exceed $75,000. Work we have done that would inform Level 1 and Level 2 can be used to reduce costs. Costs can be further reduced depending on the willingness of the licensee to work collaboratively with study participants on study development and implementation.

[23] Whittaker, D and B. Shelby. 2002. Evaluating instream flows for recreation: Applying the structural norm approach to biophysical conditions. Leisure Sciences Vol 24(3-4): 363-374.

[24] Henry M. Jackson Hydroelectric Project, FERC Project No. 2157; Filing of Revised Study Plans, FERC eLibrary Accession Number 20060912-5117, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=4437954>.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON
BOULEVARD CHICAGO, IL
60604-3590

March 15, 2021

REPLY TO THE ATTENTION OF:
Mail Code RM-19J

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, Northeast
Washington, District of Columbia 20426

Re: Scoping Comments for the Gile Flowage Storage Reservoir Project, West Fork Montreal River, Iron County, Wisconsin, Project No. 15055-000

Dear Ms. Bose:

The U.S. Environmental Protection Agency has reviewed Scoping Document 1, dated January 2021, for the project referenced above. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act. The Federal Energy Regulatory Commission (FERC) is the lead agency under NEPA, and the Northern States Power Company (Northern States) is the project proponent.

The Gile Flowage Storage Reservoir Project (Gile Project) is a headwater storage reservoir that augments flow during periods of low flow at the downstream Saxon Falls Hydroelectric Project and Superior Falls Hydroelectric Project. Scoping Document 1 explains that FERC intends to prepare an Environmental Document under NEPA to determine whether, and under what conditions, to issue a 30- to 50-year license for the Gile Project. Northern States proposes to continue to operate the Gile Project, without new or upgraded facilities, structural changes, or operational changes. While EPA does not have data specific to the project area, our enclosed Detailed Comments include recommendations for topics to include in the NEPA Document.

We appreciate the opportunity to comment. If you would like to discuss our recommendations, contact Jen Tyler, the lead reviewer for this project, at 312-886-6394 or tyler.jennifer@epa.gov. Please provide an electronic version of the subsequent NEPA document to Ms. Tyler for review.

Sincerely,

KENNETH WESTLAKE
Digitally signed by KENNETH WESTLAKE
Date: 2021.03.15 16:40:21 -05'00'

Kenneth A. Westlake
Deputy Director
Office of Tribal and Multimedia Programs

Enclosure: EPA's Detailed Comments

EPA's Detailed Scoping Comments for the Gile Flowage Storage Reservoir Project, West Fork Montreal River, Iron County, Wisconsin, Project No. 15055-000

Climate Resiliency & Stormwater Management

The U.S. Global Change Research Program reports that across the Midwestern U.S., statistically significant increases in flood risk and severity are well documented and attributed mostly to increases in precipitation. Extreme heat, heavy downpours, and flooding will affect infrastructure.[1]

Recommendations for the NEPA Document:

- Consider changing precipitation, flooding, and temperature conditions, as reported by the U.S. Global Change Research Program.
- Assess whether project infrastructure would likely be resilient to such changes. This is particularly important because of the 30- to 50-year term of the proposed license.
- If needed, incorporate resiliency and adaptation measures or plans. For example, discuss plans to regularly check the structural integrity of infrastructure and erosion of banks. Consider heat and precipitation stressors as well as extreme weather events when determining appropriate time intervals for such checks. Doing so may help prevent unintended environmental and community impacts. Additionally, use EPA's Climate Change Adaptation Resource Center as a tool to identify appropriate mitigation strategies, available at: https://www.epa.gov/arc-x.
- If FERC addresses issues of climate resiliency outside of the NEPA process, then summarize the information within the NEPA document and reference relevant policies or procedures. Consideration of resiliency in the NEPA decision-making process is important since it relates to future environmental impacts of the project.

Water Quality

The proposed action may impact water quality, including dissolved oxygen levels and temperature.

Recommendations for the NEPA Document:

Discuss current water quality in the project area, potential impacts from the project, and plans for monitoring. If needed, commit to measures to protect water quality.

Species

Protective measures could minimize adverse impacts to aquatic species from continued operation of the Gile Project.

Recommendations for the NEPA Document:

- Disclose historic impacts on species from operation of the Gile Project.
- Identify all state and federally listed threatened and endangered species known to occur in the project area.
- Assess best practices for protecting fish and mussel species.

[1] U.S. Global Change Research Program, 2017 Climate Science Special Report: Fourth National Climate Assessment (NCA4), Volume 1, page 241.

- Coordinate with the Wisconsin Department of Natural Resources and the U.S. Fish and Wildlife Service on opportunities to protect species. Describe coordination in the NEPA document.

Document Content(s)

A Wisconsin Qualified Lake Association
PO Box 227, Montreal, WI 54550
friendsofthegile.org

March 16, 2021
VIA Electronic Filing
Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: Friends of the Gile Flowage Comments on Notice of Intent, Scoping Document 1, Preliminary Application Document, and Studies Request for the Gile Flowage Storage Reservoir Project, P-15055-000

Dear Secretary Bose:

The Board of Directors of the Friends of the Gile Flowage (FOG), a 501c3 qualified Wisconsin lake association, and the only volunteer citizen-led organization representing the Gile Flowage with place-based experience of issues affecting it. We have over 16 years of actively working for stewardship of the Gile Flowage for future generations.

We appreciate the opportunity to identify issues and studies we feel are important to this license process. In regards to requirements for study requests (18 CFR 5.9(b)), we feel FOG has expertise to respond to: #1 (goals and objectives and information to be obtained), #3 (relevant public interest, as we are not a resource agency), #4 (existing information based on our place-based knowledge of the Gile Flowage including studies and activities we have conducted), and # 5 (nexus of project operation and effects on resource).

We do not have the resources or expertise to respond to criteria #2 (resource agency or Tribal goals), #6 (proposed study methodology), and #7 (level of effort, cost, alternative studies). We would defer to federal and state agencies, and Tribes for these recommendations as they are beyond the scope of our lake association.

REQUESTED STUDIES

Water Level Study

#1 Water Level Study goals/objectives

- Evaluate impacts of annual drawdown strategies on shoreline erosion, fish and wildlife habitats, invasive species, and historic, cultural, geological, and aesthetics resources; and develop strategies to mitigate impacts.
- Integrate impacts of increasing extreme weather events into draw down and water level management planning**.** Extreme weather events are projected to increase in northern Wisconsin and will have significant impacts on water level management, dam safety, and environmental and cultural factors cited in the first bullet point.
- Evaluate drawdown impacts on Gile Flowage recreational use, public access, and public safety and develop strategies to mitigate impacts.

#3 Relevant Public Interest

Gile Flowage water level fluctuations have been the biggest issue with adjacent Flowage property owners and pubic recreational users. This issue may become even more controversial

with the licensee in process of selling their riparian lands to adjacent land owners who must contend with erosion damage to what is now their private property.
We are concerned that the Gile Flowage PAD includes the provision for the licensee to flood to the 1500' elevation or drawdown water levels up to 15 ft. Either of these actions could create significant issues with recreation uses and access, fish and wildlife habitats, adjacent private property, and public safety and access.

We are also concerned about the impact of water level fluctuations and the establishment of Eurasian Water milfoil, an aquatic invasive that can colonize exposed lake substrates. This invasive is found in neighboring Iron County lakes frequented by Gile Flowage users.
Eurasian Water Milfoil has significant negative effects on fish habitat, water quality, and water-based recreation and has limited control options so keeping it out of the Flowage is a priority.

#4 Existing Information, need for more information

Existing information:

- In the Gile Flowage PAD, the licensee provided historic records of Gile Flowage water level fluctuations. The Gile Flowage has observable shoreline erosion from water level fluctuations.

Needed information:

- We believe it is prudent to ask the licensee to provide a rationale and consideration of impacts that may be caused by the provisions for a 15 ft. drawdown and flooding to the 1500 ft. elevation.

#5 How Development of Study Results Would Inform Development of License Requirements

This study would evaluate how water level fluctuations proposed by the licensee will affect the Flowage's ecosystem, erosion, recreation, public safety, private property values, and historic/cultural/geologic/aesthetic resources to determine the efficacy of water level management strategies.

Aquatic and Terrestrial Invasive Species Study

The Gile Flowage was Wisconsin's first inland lake to be infested with the invasive species Spiny Water Fleas *(Bythotrephes longimanus)* or "SWF." Since then, they have spread to other northern WI lakes and river systems. In addition, the Chinese Mystery Snail, invasive mussel, has been found in the Gile Flowage. Recreational users traveling to and from the Gile Flowage can spread SWF from the Flowage or bring in new invasive species from other waterbodies. SWF and other invasives affect water quality, water recreation, and fishing.

#1 Invasive Species Study goals/objectives

- Assess current Spiny Water Flea populations in the Gile Flowage to establish a population baseline and their impact on fisheries and recreation
- Develop strategies for mitigating these impacts of SWF, and introduction of other invasive species including Eurasian Water Milfoil, quagga and zebra mussels, purple loosestrife.
- Evaluate the effects of outflow regimes on Flowage littoral species and Montreal River species and the impact of Gile Flowage operations could result in these (an potentially other invasive species) being a major source of these undesirable species to other area waters.

#3 Relevant Public Interest

Spiny Water Fleas are an invasive predatory zooplankton impacts the health of the Flowage's fishery and fishing recreation due to their effect on the aquatic food chain. The Gile Flowage serves as a vector for the spread of Spiny Water Fleas to other lakes on equipment of visiting boaters and recreationalists.

#4 Existing Information, need for more information

Existing information:

- In 2015, the Friends of the Gile Flowage's "Strategic Plan to Address Spiny Water Fleas in the Northern Lakes Region" can provide baseline information. We are not aware of any recent assessment of SWF populations or their impact on the Gile Flowage fisheries and recreation.

Needed Information:

- Updated SWF population baseline to: 1) to determine change in SWF populations and impacts on Flowage fisheries, 2) effect of bluegill stocking in SWF control, and 3) need for additional control or mitigation measures.

#5 How Development of Study Results Would Inform Development of License Requirements

FOG would welcome provisions for Xcel Energy support for aquatic and terrestrial invasive monitoring and mitigation.

Fisheries Study

We support the recommendations in the WDNR's March 5, 2021 Scoping Document response pertaining to fisheries studies. We would defer to their expertise, but would like to add the following:

#1 Fisheries Study goals/objectives

- Update fish population assessments in conjunction with assessment of food and habitat availability with recommendations for enhancing game and non-game fish species populations
- Evaluate the impact of projected northern Wisconsin warming temperatures on the conversion of the Gile Flowage to more warm water species, particularly the conversion of walleye to bass dominated fishery, and develop management strategies to support a sustainable walleye fishery.

#3 Relevant Public Interest

Cool water fish species, especially walleye, are a major attraction for Gile Flowage fishers. FOG has partnered with the Wisconsin DNR and Xcel Energy to improve near shore fish habitat for walleye and other cooler water fish species through fish crib installations and fish stick tree drops. FOG has partnered with the WDNR to attempt SWF control through the bluegill stocking. These projects have received public support both financially and through volunteer labor.

#4 Existing Information, need for more information

Existing Information:

- "2015 Spiny Water Flea Strategic Plan" which provides information on numbers and potential impacts.

- The US Geological Survey (USGS) has research-based information on conversion potential for the Gile Flowage and other Wisconsin waterbodies from walleye to bass. https://labs.waterdata.usgs.gov/visualizations/climate-change-walleye-bass/index.html

Need for More Information:

- Updated fish population assessment to provide baseline information on species diversity as a basis for recommendations for enhancing habitat for game and non-game fish species

#5 How Development of How Study Results Would Inform Development of License Requirements

Water levels and water quality has tremendous impacts on types and numbers of fish populations. Limiting water drawdowns through the licensing process to avoid critical times for fish spawning times should be considered.

Recreation Study

The 3138 acre Gile Flowage is prized for wilderness-like summer lake kayaking, island camping, boating, and fishing; and winter ice fishing, snowshoeing, and snowmobiling. Its rugged aesthetic beauty enhances shoreline hiking, bird watching, and other uses. Flowage recreational uses depend in large part on water levels. Downstream water-based recreation such as kayaking, depend on the Flowage's outflows, which in turn affects the Flowage's water levels.

#1 Recreation Study goals/objectives

- Evaluate the Flowage's silent and motorized sport recreational issues, needs, opportunities, and accessibility. Recognize the connectivity of the Gile Flowage within Montreal River system and in supporting downstream recreational activities (such as whitewater kayaking), fish and wildlife habitats, and aesthetics such as waterfalls. There is no mention in the PAD about aesthetic flows in regards to these important resources.
- Develop a recreational use and management plan for the Gile Flowage, including its islands and Xcel owned riparian lands and uplands. The PAD makes only passing mention of the over 20 undeveloped islands within the Gile Flowage. These islands are a critical component of the Flowage's aesthetic value and offer unique recreational opportunities and habitats. For example, Xcel/NSP's current policy does not allow camping on these islands, although this is a common practice creating issues with public sanitation and litter that also must be addressed.
- Consider impacts of water level fluctuations on the recreational use, especially those offered in the Gile Flowage PAD of a 15 ft. drawdown and flooding to 1500 ft. elevation, on the islands, boater access at landings, and overall recreation and aesthetics. Flooding to this elevation would put islands and landings underwater.
- Recommend strategies for maintaining the aesthetic "wilderness-like" characteristics of the Gile Flowage.

#3 Relevant Public Interest

The PAD states that recreation within the vicinity "is dominated by" local parks and monitored by local park staff. This does not acknowledge the Gile Flowage is a major and growing regional recreational attraction and recreational use growing in numbers and diversity. The proposed project boundary leaves critical recreational access support facilities out of the licensing discussion when they are integral features of public access to water resources. The assessment does not acknowledge the important and popular recreation sites owned by the

licensee, but not formally managed by any entity. These include the 20+ islands that are within the project boundary.

#4 Existing Information, need for more information

Existing information:

- The "2004 and 2005 Gile Flowage Comprehensive Land Use Plan" that includes information about recreation and land use offers baseline information.

Needed Information:

- Evaluation of recreational uses, and issues and opportunities with current and potential future uses that could be addressed through Flowage management.

#5 How Development of How Study Results Would Inform Development of License Requirements

The licensee's management of Gile Flowage water levels together with its management of Flowage's 20+ islands, riparian lands and uplands affects the types and quality of Gile Flowage recreation use. This includes recreation by local residents and visitors coming who provide additional economic benefits to local communities. Water discharge from the Gile Flowage is the primary determinant of downstream recreational use, especially kayaking. Scenic viewing of the waterfalls along the West Branch of the Montreal River depends on water released from the Gile Flowage. Water discharge strategies also impact fish and wildlife habitats, affecting fishing and hunting recreation.

Historic/Cultural/Geological/Aesthetics Resource Study

We feel that the licensee's proposed studies should address the following historic, cultural, geological, or aesthetic resources and considerations.

#1 Historic/Cultural/Geological/Aesthetics Study goals/objectives

- Identify sites within or adjacent to the Gile Flowage and its Montreal River corridor to be evaluated for their National Register of Historic Places eligibility; the Wisconsin Register of Historic Places; or are of such historic, cultural, geologic, and/or aesthetic value to enhance public recreational use of the Gile Flowage.
- Develop strategies for maintaining the integrity of these sites and enhancing them through public education and access, where applicable.

#3: Relevant Public Interest

The Gile Flowage, and its connected riverine corridor, includes some of the Midwest's most unique scenic and historic resources. The Gile Flowage is the last undeveloped Laurentian Shield lake in Wisconsin. It is known for its "wilderness-like" character, an aesthetic that attracts recreational users. It is also one of the only "dark sky" lakes remaining in Wisconsin. These resources provide aesthetic beauty, unique habitats and are an economic tourism driver for Iron County.

Iron County is a designed Wisconsin Heritage Area. The Gile Flowage, adjacent lands, and riverine corridor include important Native American and non-Native historic and cultural sites not mentioned in the PAD. They offer opportunities for public recreation, education and interpretation, and enjoyment tied to the Gile Flowage and its waters. Sites of national and state historic significance on or adjacent to the Gile Flowage include:

- "Flambeau Trail" (crosses the Gile Flowage): This well documented historic Native American trail, and later fur trade route through the mid-1800's, follows the Montreal River from Lake Superior, across the Gile Flowage, and to points south. Wisconsin Public Lands Survey 1861 survey records the Flambeau Trail crossing what is now the Gile Flowage. Potential for National Register status.

- Montreal Mine and Waste Rock Piles (north end of the Gile Flowage): The huge waste rock piles that dominate the Flowage's northwest shoreline are remnants of what was once the world's deepest iron ore mine and a prominent landscape feature. Potential for National Register status.

- Geologic Features (Gile Flowage, Flowage Islands and Uplands): The Gile Flowage is a Laurentian Shield lake and a rich site for geologic research and interpretation. Geologic features include +2 billion year old greenstone and Montreal Mine iron ore waste rock piles mentioned above. Potential for National Register status.

- Native American Village Site-Mouth of the Montreal River (within the Gile Flowage-Montreal River corridor): A well-documented site of an Ojibwe Indian village and a trailhead for the Flambeau Trail. Potential National Register status.

- Waterfalls (within the Gile Flowage-Montreal River corridor) The PAD does not adequately cover area scenic attractions, only mentioning Superior Falls. The following are waterfall scenic attractions connected to water flows into and out of the Gile Flowage:

  West Branch of the Montreal River Waterfalls: Spring Camp Falls (immediately upstream from Gile Flowage), Gile Falls (immediately below the Gile Dam), Kimball Falls

  East Branch of the Montreal River Waterfalls: Interstate Falls, Peterson Falls

  Montreal River (downstream from West and East Branch confluence): Superior Falls, Saxon Falls

#4 Existing Information, need for more information

Existing information:

- Brief History of the Gile Flowage, publication by Friends of the Gile Flowage
- Wisconsin Public Lands Survey records in 1861 survey records the Flambeau Trail crossing what is now the Gile Flowage.

Need for more information:

- Inventory of historical/cultural/geological/and aesthetics resources connected to the Gile Flowage could offer opportunities for enhancing recreation experiences.

#5 How Development of Study Results Would Inform Development of License Requirements

Historical/cultural/geological/aesthetics resources contribute to attracting recreational users and enhancing their experiences on the Flowage. On page 139, the PAD states "no proposed operational, reservoir level, minimum flow, or land use changes would cause adverse aesthetic

impacts." We feel it is worth considering how proposed water level and land use changes could impact these resources and the wilderness-like aesthetics of the Gile Flowage.

Request: All studies of the Gile Flowage should integrate a watershed approach

While this is not a request for a study, it is a request that all studies of the Gile Flowage integrate a watershed approach whenever possible because management of the Gile Flowage is interconnected with the watershed and the Montreal River to which receives and sends its waters.

#1: Assessing the Gile Flowage as an integrated Whole System that addresses the following goals

- All studies of the Gile Flowage take an integrated watershed approach integrated study of the Gile Flowage and its riverine corridor of West Branch of the Montreal River recognizing the complexity and interrelatedness of these features and their impacts on recreation, fish and wildlife habitats, and aesthetics; in addition to hydro generation
- All studies should address management strategies to account for projected increase in extreme weather events and warming temperatures that can affect the watershed, runoff, water quality, and public safety

#3: Relevant Public Interest

The Gile Flowage is a unique waterbody of environmental, economic, and cultural importance. It is Wisconsin's largest undeveloped and dark sky Laurentian Shield lake. That is changing. The numbers and diversity of recreational use is increasing.

#4 Existing Information, need for more information

"Gile Flowage Watershed Plans", Phase 1-2004 and Phase 2- 2005. Although dated, they would provide a baseline for developing an updated watershed approach.

#5 How Development of How Study Results Would Inform Development of License Requirements

Integrating a watershed approach into all studies involving the license requirements for the Gile Flowage will provide a more holistic, connected view of issues and impacts affectingthis waterbody. For example, extreme weather events, especially heavy rainfall, are projected to increase in northern Wisconsin (Wisconsin Initiative on Climate Change Impact, 2021). The impact on the watershed and will affect the Flowage's water levels, water quality, fish and wildlife habitats, recreation, public and private infrastructure, and public safety.

We feel that the Gile Flowage should not be considered in a vacuum, as a significant part a larger watershed that directly affects it and that it affects.

The Friends of the Gile Flowage offers assistance on any of the studies noted above. We have over 16 years of organizational place-based experience with Flowage stewardship. We have members with past and present place-based professional experience with the Wisconsin DNR, University of Wisconsin-Extension, US Forest Service, and other natural resource organizations.

On behalf of the Friends of the Gile Flowage, thank you for this opportunity to share our concerns and study recommendations as part of the Gile Flowage's Scoping Process.

Should you have any questions regarding these comments, please contact me at 715.561.2185 (home), 715.360-6170 (cellphone) or cathyt220@hotmail.com

Sincerely,

Cathy Techtmann, President
Friends of the Gile Flowage
Box 227
Montreal, WI 54550

Document Content(s)

Michigan Hydro Relicensing Coalition
1620 High Street
Traverse City, MI 49684

Telephone (231) 775-4321

March 17, 2021

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington DC. 20426
(via e-filing)

Re: Input on Notice of Intent, Scoping Document 1, Preliminary Application Document, and Studies Request for the Gile Flowage Storage Reservoir Project (P-15055) Licensing.

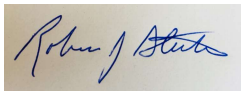
Dear Secretary Bose:

The Michigan Hydro Relicensing Coalition (Coalition) is a coalition of four statewide, nonprofit conservation groups with an interest in the protection and enhancement of aquatic resources: Michigan United Conservation Clubs, Michigan Council of Trout Unlimited, Great Lakes Council of Flyfishers International, and Anglers of the Au Sable. The Coalition is an Intervenor in the licensing proceedings for the Gile Flowage Project (P-15055) given the nexus between it and the downstream Saxon Falls - Superior Falls Hydropower Projects on the Montreal River, a Michigan interstate river which is currently in the re-licensing process.

The Coalition supports the comments and licensing study requests submitted by the Resource Agencies (Wisconsin Department of Natural Resources, National Park Service) and River Alliance of Wisconsin. The Coalition feels these organizations have provided good rationale for the proposed studies in terms of stated goals and objectives, public interest considerations, need for additional information, and establishing the nexus between project operations and effects on the resource to be studied.

Thank you very much for your consideration of our input. Please contact me if you have any questions.

Sincerely,



Robert J. Stuber, Executive Director
Michigan Hydro Relicensing Coalition

cc: Matthew J. Miller (NSPW; matthew.j.miller@xcelenergy.com)
Nick Utrup (U.S. Fish and Wildlife Service; nick_utrup@fws.gov)
Angela Tornes (National Park Service; Angie_Tornes@nps.gov)
Cheryl Laatch (WDNR; Cheryl.Laatsch@wisconsin.gov)
Elle Gulotty (MDNR; GulottyE@michigan.gov)
Cathy Techtmann (Friends of the Gile Flowage; cathyt220@ hotmail.com)
Allison Werner (RAW; awerner@wisconsinrivers.org)
James Fossum (RAW-JDFossum Environmental Consulting; jfbio@yahoo.com)

United States Department of the Interior
NATIONAL PARK SERVICE
Interior Regions 3, 4, 5
Wisconsin Field Office
626 E. Wisconsin Ave., Suite 400W
Milwaukee, WI 53202

March 16, 2021

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington DC. 20426

Electronic Filing

Re: National Park Service Comments on the Pre-application Document and Study Request for Gile Flowage (P-15055) Hydroelectric Project

Dear Secretary Bose:

The National Park Service (NPS) respectfully submits the following comments on the Pre-application Document (PAD) for the Gile Flowage (P-15055) Hydroelectric Project. The NPS is also submitting three study requests: 1) a comprehensive recreation study request, 2) a recreation flow study request, and 3) a reservoir level assessment.

The NPS has authority to consult with the Federal Energy Regulatory Commission (FERC) and applicants concerning a project's effects on outdoor recreation resources under the Federal Power Act (18 CFR 4.38(a), 5.41(f)(4)-(6), and 16.8(a)); the Outdoor Recreation Act (Pub Law 88-29), and the NPS Organic Act (39 Stat. 535). It is the policy of the NPS to represent the national interest regarding recreation and to assure that hydroelectric projects subject to the FERC licensing process incorporate the full potential for meeting present and future public outdoor recreation demands while maintaining and enhancing a quality environmental setting for those projects. Investigating opportunities to improve the recreation experience is consistent with NPS policy and FERC guidelines to identify potential future recreation needs.

A. NPS COMMENTS ON THE PAD

The NPS filed comments and study requests on the PAD for the Saxon Falls (P-2610) and Superior Falls (P-2587) on June 10, 2020. Information about the unlicensed Gile Flowage, which provides storage for the two aforementioned projects, was included in that PAD. Consequently, the NPS commented on issues related to the Gile Flowage and provided study request that incorporated the Gile Flowage. The NPS believes that the comments and study requests remain pertinent to the separate licensing of the Gile Flowage since the three projects

(Saxon Falls, Superior Falls, and Gile Flowage) are interconnected and operated interdependently.

1. Gile Flowage is an Original Project

Since the Gile Flowage is not currently licensed by FERC, Northern States Power Company – Wisconsin (NSPW or Applicant) is applying for an original license for an existing hydroelectric project. While the Project has been in operation for many decades, it has never been licensed. As a result, there has never been a consolidated attempt to compile data on existing environmental conditions and potential project-related resource impacts nor develop and implement mitigation measures. Although the PAD only provides a cursory review of existing environmental conditions based on limited data, the Applicant concludes that the *"existing information available does not identify any significant concerns or adverse effects upon the resources from the current operation."* Based on this conclusion, the Applicant proposes no studies except those required under statute (e.g., archaeological surveys, critical habitat review, and listed species consultation), and does not see any need for protection, mitigation, or enhancement measures (PM&E) be included in the original license. Since Gile Flowage has never been licensed, the clear lack of baseline data needed to determine ongoing and future resource impacts leads the NPS to disagree with the Applicant's conclusion that there is no need for resource studies, specifically those related to recreation and aesthetics. Such studies are necessary to determine if there are recreation and other needs in the Project area and if PM&E measures are warranted in the FERC license.

The Gile Flowage PAD includes the same information that was provided in Saxon Falls (P-2610) and Superior Falls (P-2587) Hydroelectric Projects, filed on December 30, 2019, when the Applicant was not pursuing an original FERC license for Gile Flowage. This suggests that the Applicant did not consider the issues and concerns related to Gile Flowage raised by agencies and NGOs who commented on the Saxon Falls and Superior Falls PAD. As such, the NPS does not believe that the Applicant can support their claim that the information provided in the PAD is sufficient and "does not identify any significant concerns or adverse effects upon the resources from the current operation."

2. Proposed Project Boundary

The Gile Flowage does not currently have a FERC project boundary: The Applicant proposes in the PAD that the project boundary only include project facilities, dam, reservoir, and shoreline areas to the maximum allowed reservoir elevation of 1,490 feet. This limited project boundary excludes land-based components, such as parking lots and restrooms, associated with water-based recreational facilities, such as ramps and piers, that are included within the project boundary. The proposed project boundary therefor leaves critical recreational access support facilities out of the FERC licensing discussion when they are integral features of public access to water resources. The proposed project boundary also excludes Applicant-owned shorelands that contribute significantly to the wilderness-like setting of Gile Flowage, an important Project environmental resource. The NPS requests inclusion within the project boundary all components of the developed recreation sites identified in the PAD (Sucker Hole Landing, Town of Pence Landing, County C Landing, and Gile Park Landing) as well as a naturally vegetated conservation zone on Applicant-owned lands.

FERC issued Order 313 (30 FR 16197) to ensure that the ultimate development of recreation resources at all projects is consistent with the area's recreational needs. Under FERC Order 313, licensees are required to:

1. Acquire lands to assume optimum development of the recreational resources afforded by the project
2. Develop suitable public recreational facilities with adequate public access, considering the needs of physically handicapped persons in the design of facilities and access
3. Coordinate efforts with other agencies in the development of recreation areas and facilities
4. Provide for planning, operation, and maintenance of these facilities
5. Inform the public of opportunities for recreation at licensed projects

The NPS is concerned that the proposed boundary would limit the ability of the project to meet recreational needs and enhance recreation opportunities in the project area by reducing the area where crucial recreation support facilities are needed.[1] The Applicant does not currently own or manage recreation facilities in the proposed project boundary, which makes this licensing effort an important opportunity to address unmet recreation needs.

In addition, the project boundary is not limited to only those lands necessary or appropriate for the maintenance and operation of the project. The FERC definition of the project boundary includes "other project purposes." These other project purposes include protecting or enhancing resources (e.g., fish and wildlife) or non-power related uses (e.g., recreation and aesthetics), as defined under 18 CFR 4.41(h)(2):

> The boundary must enclose only those lands necessary for operation and maintenance of the project ***and for other project purposes, such as recreation***, shoreline control, ***or protection of environmental resources***. Existing residential, commercial, or other structures may be included within the boundary only to the extent that underlying lands are needed for project purposes (e.g., for flowage, public recreation, shoreline control, or protection of environmental resources) *(emphasis added).*

Based on the definition of project boundary, plus the mandate for hydropower projects to meet recreational needs, the Applicant should reconsider the extent of the project boundary so as not to exclude areas that are necessary for addressing other project purposes, including meeting the area's recreational and environmental needs.

3. General Lack of Recreation Data

The Federal Power Act requires licensees to equally consider non-power resources including recreation. The Applicant does not propose any recreation studies for the Gile Flowage; the NPS recommends that the Applicants conduct such studies. A comprehensive recreation study is

[1] Such recreation needs cannot be determined until a comprehensive recreation study is conducted, as the one requested by the NPS in this letter.

needed to inform the license decision and for the development of a recreation resource management plan (RRMP) as required by FERC (18 CFR 4.51(f)(5)). The study is required because existing information about the current and projected recreation resources, use characteristics, and needs are mostly lacking. As previously stated, FERC requires studies relative to recreation resources including the development of an RRMP and to do so in consultation with the NPS. Existing information in the PAD is not adequate to develop a comprehensive RRMP nor would it serve to inform FERC's equal consideration of the power and non-power values of the West Fork of the Montreal River in its licensing decision or help identify measures needed to protect, mitigate and enhance recreational resources

4. Inadequate Whitewater Boating Flow Data

Gile Flowage provides storage for the downstream Saxon Falls and Superior Falls Projects. Consequently, we restate much of the content regarding flows we provided in our comments for the two projects downstream. The three projects are interrelated and any study addressing flow management must include Gile Flowage.

In Section 4.8.1.6 of the PAD, the Applicant identifies that the West Fork of the Montreal River downstream of Saxon Falls Dam as a popular Class IV whitewater boating run and refers to an internet flow study that identifies the optimal flow range for boating was between 400 and 1,000 cfs. This study was based on an online survey American Whitewater created to collect preliminary information about whitewater recreation on the river and document the existence of recreational opportunities impacted by Project operations. American Whitewater clearly identified the limitations of their study: 1) internet studies are by nature a biased and hard to control medium for conducting research and 2) over a third of the respondents had not run the studied stretch of the river prior to responding to the survey. While the information collected in the internet flow study documents the existence of whitewater recreation opportunities and provides components necessary to determine an acceptable instream flow level, the study was identified as insufficient to establish the Project's specific protection, mitigation, and enhancement measures. Considering the study's limitations, American Whitewater had recommended an initial whitewater release prior to a follow up survey of participants to obtain a more accurate instream flow-recreation relationship for the West Fork of the Montreal River.

The NPS recommends that the Applicants conduct a more robust whitewater boating flow study using the methods outlined *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker, Shelby and Gangemi 2005). Whitewater boating flow studies for FERC licensing processes are routinely conducted flowing these guidelines, which provides consistency in flow studies across FERC projects. The data collected in the 2007 Internet Flow Study can be incorporated into the requested whitewater boating study and used as baseline data to help direct the study.

B. NPS STUDY REQUEST #1: COMPREHENSIVE RECREATION STUDY

The NPS recommends the following study request which addresses each of the seven study criteria as required under 18 CFR §5.9.

Criteria 1: Study Description and Objectives (§5.9(b)(1)):

The NPS proposes a comprehensive recreation study that involves a detailed condition assessment and inventory of recreation facilities and dispersed recreation use in the project area to evaluate whether recreation needs are being met within the proposed project boundaries. These steps are followed by a demand analysis which contributes to the overall recreation study: comparing demand to the inventory and condition assessment allows further evaluation of existing and projected recreation needs within the project areas. This recreation study will comprise the following elements:

1) Recreational Facility Inventory and Condition Assessment
2) Recreational Facilities Accessibility Assessment
3) Recreation Use and Demand Assessment
4) Recreation Needs Assessment

The information from the comprehensive recreation study is necessary to determine potential future improvements to or expansion of recreation facilities within the proposed project boundaries. The objective of this recreation study is to determine the condition of existing recreational facilities, their capacity to address current and future user demand, and to provide the basis for making recommendations for improving/enhancing recreation opportunities.

Criteria 2: Resource Management Goals (§5.9(b)(2)):

It is the policy of the NPS to represent the national interest regarding recreation and to assure that hydroelectric projects subject to licensing recognize the full potential for meeting present and future public outdoor recreation demands while maintaining and enhancing a quality environmental setting for those projects. It is in the public interest to analyze impacts and trade-offs, provide mitigation to these impacts and evaluate opportunities for recreation in the future. The FERC guidelines and the Federal Power Act also provide direction to give equal consideration to other non-hydropower resources including recreation. As federal agencies operating in the public interest, both NPS and FERC are charged with making resource management decisions based on sound information about public needs and interests, including interests in recreation resources.

Criteria 3: Resource Agency Status of Requestor and Relevant Public Interest (§5.9(b)(3))

The NPS is a resource agency. It is in the public's interest to fully document recreation opportunities and potential for improvements during this original licensing effort. Existing and potential future recreation must be evaluated during the FERC licensing process (18 C.F.R. 4.51).

Criteria 4: Existing Information and Need for Additional Information (§5.9(b)(4))

The Gile Flowage PAD provides a brief overview of recreation opportunities in the project vicinity, including developed recreation facilities that are partially within the proposed project boundary but not owned or maintained by the Applicant. No detail is provided on the condition of such facilities, statistics on visitor use and user preferences, recreation demand, and recreation

needs. The PAD does not mention the informal and dispersed recreation sites and access points within the project boundaries, including several islands owned by the Applicant that are frequented by recreationists.

In addition, while the PAD identifies in Section 4.8.5 (p. 108) that Americans with Disabilities Act (ADA) needs are accommodated in several locations in the vicinity of Gile Flowage, it does not identify any ADA-compliant facility within the project areas. Opportunities for the disabled to access Project facilities need to be identified to provide accessibility or other upgrades to meet current and future user needs.

Criteria 5: Nexus to Project (§5.9(b)(5))

A clear nexus exists between project operations and recreational opportunities on Gile Flowage and its shorelines. Flows discharged from Gile Flowage dam are regulated for Project purposes and alter recreation opportunities downstream of the dam on both West Fork Montreal and the Mainstem Montreal rivers. In addition, although the Applicant has reduced elevation changes from 15 feet in years past to approximately half that in recent years, surface elevation changes may restrict other recreation opportunities on and surrounding Gile Flowage.

Recreation is an important benefit of most hydroelectric projects and FPA regulations require consideration for protection and enhancement of recreational opportunities. FERC's policies include ensuring that the ultimate development of recreation resources at licensed projects is consistent with area recreation needs and with the primary project purpose. To plan for future needs for recreation within the proposed project boundaries, data on existing recreation facilities and their respective conditions is necessary to make informed decisions about the development needs required through the term of the FERC project license.

Criteria 6: Study Methodology (§5.9(b)(6))

An inventory of recreation opportunities and facilities; determining recreation demand using field observations, user surveys, and focus groups; and estimating recreation needs based on the data gathered is consistent with generally accepted practices employed during hydroelectric licensing proceedings. Evaluating outdoor recreation facilities per the Architectural Barriers Act Accessibility Guidelines[2] is a common technique to establish the level of accessibility at outdoor recreation areas and recreation facilities.

a. Study Area

The area of focus for the recreation facilities condition assessment and demand analysis consists of existing recreation areas within and adjacent to the proposed Gile Flowage Project boundary. Since the Project boundary is not set and important recreation facilities and undeveloped sites are located outside but adjacent to the proposed boundary, it is important to consider these sites.

[2] https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/aba-standards/chapter-10-recreation-facilities

b. Study Sites

All existing developed and dispersed recreation sites within and adjacent to Gile Flowage proposed project boundary should be inventoried including formal and informal trails and formal and informal access and camping sites on shore and islands. The inventory should identify current use, current conditions, and any impacts that the project might have on these. We recommend consulting NPS and other stakeholders in developing the survey instruments and protocol.

Gile Flowage Developed Recreation Sites

The proposed project boundary includes portions of developed recreation sites such as courtesy piers and the lower end of boat ramps that are located within shoreline areas up to the maximum allowed reservoir elevation of 1,490 feet, but excludes the land-based components of these recreation sites, such as parking lots and restrooms. The proposed project boundary therefor leaves critical recreational access support facilities out of the licensing discussion when they are integral features of public access to water resources. The NPS requests that the following developed recreation sites be studied in their entirety:

- Sucker Hole Landing
- Town of Pence Landing
- County C Landing
- Gile Park Landing

Gile Flowage Undeveloped Recreation Areas

There are over 20 undeveloped islands within the Gile Flowage that offer unique recreational opportunities and habitats. According to the Friends of Gile Flowage, the Applicant does not allow camping on these islands, yet it is a common practice that likely creates issues with public sanitation and litter. The comprehensive recreation study should examine and characterize recreation use on these islands as well as other undeveloped recreation use areas (e.g., informal access sites, fishing areas, hiking trails, preferred boating areas, and camping areas). The study should identify potential entities to manage recreation on these islands along with estimated annual cost.

c. Study Methods

This recreation study has three components: (a) facility inventory and condition assessment, (b) recreational facilities accessibility assessment, (c) a recreation use and demand analysis, and (d) a recreation needs assessment.

Facility Inventory, Condition Assessment

The facility inventory and condition assessment portion of this recreation study consists of two steps: (1) site facility inventory and (2) field reconnaissance/condition assessment. The facility inventory and condition assessment will inform the demand analysis and will also evaluate the condition of each of the facilities at the listed recreation sites.

Step 1 –Site Inventory

This recreation study will inventory the number and type of components that are provided at the recreation sites listed above. The existing facility inventory should include identification and location of parking spaces, picnic units, boat landings/ramps, bathrooms, camp sites, and other facility components. Informally created user trails and sites (i.e., sites along shorelines and islands that are frequented by recreation users but not identified as designated facilities) will also be identified and assessed.

Step 2 – Field Reconnaissance/Condition Assessment

The field reconnaissance should include a physical condition inspection of existing recreation facilities and trails, as identified under Step 1. The reconnaissance should also identify observable use patterns and field verify if recreation amenities are constructed and in a condition that serves user needs. Informal user created sites should be identified for observable use and wear patterns.

The following steps should be taken to complete the facilities inventory:

1. Complete reconnaissance level field research: conduct fieldwork to create a detailed inventory on the conditions of existing recreation facilities and other user created sites within the study area
2. Assemble the results and create maps of data collected in the field.

The condition assessment will be qualitative based on a range of repair/replacement/ maintenance needs to acceptable appearance and function to evaluate the condition of recreation facilities. Photos should be taken of facilities, signs, trailheads, etc., and cataloged based on feature type or location. Other user created sites with observable wear patterns within the project areas should be cataloged for further evaluation within the recreation study.

Facility Accessibility Assessment

Project-related recreation facilities should be assessed for applicable accessibility/ADA requirements. The facility inventory assessment and facility accessibility assessment field work should be completed concurrently.

Recreation Use and Demand Component

The Recreation Use and Demand Component of this Recreation Study consists of 6 steps: (1) observational survey; (2) visitor use questionnaire; (3) review of research publications and existing information; (4) assessment of regional uniqueness and significance of the project areas' primary recreation opportunities; (5) interviews with user/friend's groups and recreation providers; and (6) a regional demand assessment. The steps are described in more detail below.

Step 1 – Observational Survey.

Observed recreation use occurring in the project areas based on observational surveys should be used to estimate existing use. Multiple observational surveys should be conducted year-round, with an emphasis on the summer and on holidays. Timing and sampling frequencies should be based on estimated use levels and the survey should be conducted at peak times during the day on different types of days (weekday, weekend, holiday, or opening of fishing season). The observation data that should be recorded includes vehicle counts, angler counts, boat counts, and day use/picnic area usage.

Reservoir Shoreline and Surface Water Use Assessment

To assess recreation use of Gile Flowage shorelines and water surface area, the Applicant should conduct observation surveys to document recreation use of Project shorelines and watercraft use of the reservoir's water surfaces. The observation surveys could be conducted by a roving surveyor in a vehicle and boat. Shoreline observation surveys should record the number of visitors and types of activities occurring outside of developed facilities, including activities on the islands within the project boundary. During the water surface observation survey, the number, type, and activity of watercraft on Gile Flowage should be recorded.

Step 2 – Visitor Use Questionnaire.

A concise questionnaire focusing on visitor use and experience should be fielded at the identified recreation sites when people are most likely to be present. The survey should be conducted during various days during the survey period including weekdays and weekend as well as holidays. A review of past visitor data should be assessed to determine appropriateness of target survey dates with considerations for current season use patterns and any potential unexpected conditions or events taken into account. The questionnaire should be crafted to collect information from recreationists about recreation, activity participation, accessibility needs, areas visited, group size, user conflicts, perceived crowding, visitor profile, visual impressions, and satisfaction with or desire for recreational opportunities and facilities in the project areas. The questionnaire should provide an opportunity for visitors to express any potential concerns over the current condition of and future possibilities for recreation and recreation facilities in the project areas. The questionnaire should also include questions related to reservoir levels and drawdowns, which would be used for the Reservoir Level Assessment (NPS Study Request #3). The draft questionnaire should be shared with NPS and other interested stakeholders for comment.

Step 3 – Review of Research Publications and Existing Information.

Recent relevant Wisconsin and Michigan-based user preference surveys and other outdoor recreation surveys about recreation demand in the project areas should be gathered and reviewed. These include the most recent state and county recreation management plans identified in the PAD including the Wisconsin and Michigan Statewide Comprehensive Outdoor Recreation Plans (SCORPs). The Applicant should also search for more current surveys that analyze the project and facility areas' outdoor recreation participation rates and growth needs in northern Wisconsin and Michigan to help address how the project recreation facilities are helping to meet

demands of the greater area. The newly created state Offices of Outdoor Recreation in Wisconsin and Michigan may provide contemporary information. Demand and user preference studies at various scales, covering Wisconsin and Michigan, but especially those addressing northern sections of the states, should be reviewed for their applicability to the project areas. Recreation activity and participation trends information should be examined from the existing demand studies and reports.

Step 4 – Assessment of Regional Uniqueness and Significance of the Project Areas' Primary Recreation Opportunities.

Regional uniqueness and significance of the project areas' primary recreation opportunities should be evaluated. Site-specific factors that contribute to the uniqueness of the project areas can inform the demand analysis and needs assessment. Where available, information should be gathered for sites including types of designation including water/canoe trail designation, types of recreation opportunities available, visitation statistics (including information on visitors' origin), and general popularity for regional outdoor recreation areas.

Step 5 – Interviews with User Groups and Recreation Providers.

Interviews should be conducted with a variety of identified regional and local recreation providers, user groups, and outdoor recreation tourism organizations associated with recreation in the project areas and in the project vicinity. Examples include Friends of Gile Flowage, American Whitewater members, and the Chambers of Commerce of local communities. These entities should be interviewed to gather additional information on current use, user preferences and needs, perceived regional uniqueness and significance of recreation opportunities within the project areas, existing data, and observations in the project areas for both existing and potential future users.

Step 6 – Regional Demand Assessment.

The recreation demand analysis should compare demand with the existing supply of recreation opportunities and use patterns. A gap analysis should be performed by comparing relative demand to supply, with consideration for trends and variations in user groups based on research and forecasts of population growth. By comparing this information to a detailed inventory of existing recreation opportunities and using information gathered in the observational surveys, visitor use questionnaires, structured interviews, and focus groups, it will be possible to determine whether there is a need for modifications to existing facilities and/or for the development of additional facilities and recreation amenities.

Recreation Needs Assessment

A needs assessment is an analysis of all recreation study results. Consequently, the methods to complete the needs assessment consist of all the methods used to complete the elements of this Study Description as well as methods described in the NPS Study Request #2: Recreational Flows Study Request and NPS Study Request #3: Reservoir Level Assessment Study Request.

d. Analysis

The information gathered by the recreation study will assess the suitability of facilities in terms of meeting the changing needs of recreation users in the project areas. The analysis will include developing existing and projected visitor-use estimates, along with existing and projected demand (including unmet demand) for recreational opportunities. The facility inventory assessment data collected should be analyzed to identify short- and long-term improvement needs over the term of the new license. The recreation demand analysis should provide relevant information about user preferences and needs as related to recreation facilities, including management of dispersed sites on islands, provided by the Project. The draft report should be shared with NPS and other interested stakeholders for comment.

Criteria 7: Level of Effort and Cost (§5.9(b)(7)

The cost would be contingent on the billing rate arrangement with the Applicant's consultants (rate is not known).

C. NPS STUDY REQUEST #2: RECREATIONAL FLOWS STUDY

The following study request addresses each of the seven study criteria as required under 18 CFR §5.9.

Criteria 1: Study Description and Objectives (§5.9(b)(1)):

This purpose of this study is to evaluate the impacts of the Projects on existing and potential boating opportunities in the West Fork Montreal River. This study pertains to the West Fork Montreal River:

1. Gile Falls to Highway 2 (6.3 miles West Fork Montreal River), known to whitewater boaters as "The West Branch"

The West Fork Montreal River is affected by flows coming out of Gile Flowage Dam that are determined by Project operation. The objective of the study is to determine which flows are preferred by boaters as well as which flows are acceptable and unacceptable. Because Gile Project operations are intertwined with the downstream Saxon Falls Project (P-2610), results from the West Fork Montreal River study should be compared with results from the controlled flow boating study NPS recommended for Saxon Falls bypass reach.

The components of this study should include: (1) hydrologic analysis and description of the project and facility as they impact the rivers in the project and facility vicinity; (2) recreation user and stakeholder focus group; (3) the potential for a controlled flow study to determine minimum and optimal flows for boating, if warranted by findings of hydraulic analysis; and (4) report on recreation opportunity and potential improvements.

Criteria 2: Resource Management Goals (§5.9(b)(2)):

It is the policy of the NPS to represent the national interest regarding recreation and to assure that hydroelectric projects subject to licensing recognize the full potential for meeting present and future public outdoor recreation demands, while maintaining and enhancing a quality environmental setting for those projects. FERC guidelines and the Federal Power Act also provide direction to give equal consideration to other non-hydropower resources.

Criteria 3: Resource Agency Status of Requestor and Relevant Public Interest (§5.9(b)(3))

The NPS is a resource agency. It is in the public's interest to fully document recreation opportunities and potential for improvements during this original licensing effort. Recreational boating on the West Fork Montreal River is impacted by project operations and as part of the licensing effort recreation needs must be considered as per FERC guidance to evaluate existing and potential future recreation needs (18 C.F.R. 4.51).

Criteria 4: Existing Information and Need for Additional Information (§5.9(b)(4))

The PAD provides only cursory information on the existence of whitewater boating on the West Fork of the Montreal River. No details are provided in terms of the location and existence of river access and a description of potential improvements that could enhance boating experience.

The PAD does refer to the *West Branch Montreal River Internet Flow Study*[3] (American Whitewater 2007) that provides information on flows preferred by boaters in the Gile Falls to Highway 2 section. The following excerpt summarizes some of the findings of the study:

> *Whitewater paddlers who responded to the internet survey were enthusiastic about the possibility of scheduled releases. Many expressed difficulty in predicting runnable flows for the West Branch and some respondents had never done the run due to the extremely short season when adequate flows spilled from the dam. Respondents articulated a need for whitewater opportunities in the warm weather summer months in the upper Midwest and many were willing to travel long distances for scheduled releases on the weekend. Results from the impact acceptability curve suggest that instream flow releases of 600-1,000 cfs would be acceptable to a majority of river users. A Saturday release was favored by 56% of respondents and the average preferred time and duration for instream releases were 10am and 6 hours respectively.* (p. 2)

While the reliability of the study is limited due to the methods used (e.g., internet studies are by nature a biased and hard to control medium for conducting research, and over one-third of those surveyed had not completed the stretch of river), it does provide important insights on acceptable instream flow levels on the West Fork Montreal River that can inform the necessary more robust whitewater boating flow study.

[3] Stanford, E. and T. O'Keefe (2007)

Criteria 5: Nexus to Project (§5.9(b)(5))

A clear nexus exists between Project operation and recreational opportunities on the West Fork Montreal River. The 6.3-mile section of the West Fork Montreal River from Gile Falls to Highway 2 is directly affected by flow releases out of Gile Flowage Dam. This section of river is greatly valued by whitewater enthusiasts but is greatly limited to few days of use due to low flows coming out of Gile Flowage Dam for project purposes. There is a clear nexus between project operations and recreation boating opportunities below Gile Flowage Dam on the West Fork Montreal River. These effects extend down to and beyond the confluence with the Montreal River to Saxon Falls Reservoir.

Criteria 6: Study Methodology (§5.9(b)(6))

The recommended study methods are those presented in *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker, Shelby and Gangemi 2005). The methods described in the guide are consistent with generally accepted practices in the scientific community and are frequently used for boatable flow studies in FERC licensing projects. This is a phased approach where the results of a "Level 1" assessment are used to determine whether a "Level 2" assessment is warranted, while the results of a Level 2 assessment are used to determining whether a "Level 3" assessment is warranted.

A **Level 1 Assessment** includes:

1. **Literature Review:** Review and summarize existing documents with information about recreation opportunities or the river's physical characteristics that make it attractive for recreation.

2. **Hydrology Assessment:** Summarize hydrology for the reach and the hydrologic relationship between river gauges and the river flows of this reach. Describe how the project operations work and affect the hourly, daily, and monthly flows and potential recreation opportunities. This summary of information may also include interviews with people knowledgeable about the river system and the gauges on the river.

3. **Interviews, Recreation Focus Group, and Stakeholder Meeting**: Interviews should be conducted with key resource experts and recreation users to gain additional information about recreational opportunities and the project's hydrology. A stakeholder and focus group meeting should be conducted with recreation users with the purpose to further identify the recreation flows, access to the project, and potential needs. The meeting should include a presentation on the results of the hydrology analysis and existing information on recreation access and boatable flows. It should also serve to gather input from recreation users on use, optimum boatable flows access, and other potential needs for improvements to enhance the experience.

   The focus groups should include recreational boaters, NGOs, and agency recreation staff. They should include questions about 1) how people use the river, with the goal to describe the character of recreation opportunities and identify flow-dependent attributes; 2) the effects of flows on those attributes and whether participants can identify specific flows that affect the quality of opportunities; and 3) how to prioritize opportunities and

identify recreation users' need for improved access and flow information. Interviews with agency staff will include questions about facility and use information, as well as relevant hydrology information.

4. **Report**: The results of the two study components should be summarized in a report that describes the hydrology optimum recreation boating flows, and project effects on recreation flows; recreation access to the project; and potential improvements and information needs to consider as part of the licensing process. The report should be released in draft form to interested stakeholders with an opportunity to provide comment.

   The report should also include documentation of the recreational needs and explicit analysis for whether studies should progress to Level 2. The decision rests on the answers to these basic questions:
   a) Are there flow-dependent recreation opportunities available in the subject stream reaches?
   b) Are flow-dependent opportunities affected by project operations?
   c) Are flow-dependent recreation opportunities "important" relative to other resources or foregone generation?
   d) Does Level 1 information precisely define flow ranges?

If the answers to these questions are outstanding, a **Level 2 Assessment** will be necessary. This involves:

1. **Site Visits:** A site visit with experienced boaters will provide stakeholders with an enhanced understanding of project operations and an opportunity for dialogue on what, if any, changes may be desirable. Participants should scout each river reach to examine the quality and characteristics of boating opportunities, estimate potential flow ranges, identify obvious hazards, and determine whether an on the water flow study is necessary to evaluate recreation boating opportunities.

- A site visit should be planned for the spring or early summer. This will offer a greater probability of observing higher than base flow levels. It also provides sufficient time to develop preliminary hydrology information about higher flows, become familiar with the resource via interviews and existing literature, and set up logistics with local recreational boaters who may help guide the site visit. The site visit should include evaluations of the three reaches for all recreation opportunities.

2. **Report:** The Level 2 report should include an assessment of the study participant's evaluations of the potential quality and characteristics of the boating opportunities, including difficulty, type of run, and the type of craft suitable for the run. The report should also describe potential flow ranges, obvious hazards, and recommendations for implementing an on the water flow study, if necessary.

The Level 2 report should include explicit decisions about whether additional study is necessary. The Applicants and their consultants would outline the issues in the report, but review by agencies and stakeholders (via working groups) can make those decisions more collaborative or identify disputes. The decision of whether to launch a more intensive Level 3 study is the critical study output, dependent on answers to the same questions discussed for the adequacy of Level 1 efforts.

If warranted, a **Level 3 Assessment** should involve an on the water-controlled flow study where boaters can determine acceptable and optimal instream flow conditions. The Level 3 report should describe the recreation boating attributes of the range of flows studied (including difficulty, unique features, and portage requirements), the acceptable and optimal flows for each reach, and the frequency of availability of the identified flows under current and any proposed project operation. The report should also incorporate results from the other studies that may be relevant to identifying competing uses or resource needs, including aquatic ecosystem ramping rates to mimic natural storm events, and consideration of balancing Gile Flowage elevation changes with instream recreation releases.

The report should also inform the development of license conditions for whitewater boating that could include opportunities to optimize natural flow targets, enhance recreation usage at the project, and enhance flow availability consistency. The report should propose composition of a Whitewater Recreation Committee that could monitor performance on an annual basis. This committee could include the Licensee, NPS, American Whitewater, and regional paddling clubs and meet on an annual basis prior to the recreation season to evaluate the prior year's event performance in providing recreational flows and opportunities to make modifications as appropriate.

Criteria 7: Level of Effort and Cost (§5.9(b)(7)

The cost would be contingent on the billing rate arrangement with the Applicants' consultant (rate is not known) and the number of study levels that are determined necessary as the study progresses but would be consistent with the cost of equivalent studies. The NPS believes that much of the information needed can be collected with a Level 1 Assessment so costs would be minimal. However, the determination whether a Level 2 Assessment, followed by a Level 3 Assessment are needed can only be determined by completing a Level 1 Assessment.

D. NPS STUDY REQUEST #3: RESERVOIR LEVEL ASSESSMENT

The following study request addresses each of the seven study criteria as required under 18 CFR §5.9.

Criteria 1: Study Description and Objectives (§5.9(b)(1)):

The goal of this study is to examine how fluctuating Gile Flowage water level impacts reservoir recreation and cultural resources. Information gathered from this study would be used in the assessment of overall potential Project effects on recreation and cultural resources. To address the potential effects of Gile Flowage water level fluctuation, this study would evaluate historical

lake level data, boat ramp specifications, cultural and environmental shoreline resources, and project operations.

Criteria 2: Resource Management Goals (§5.9(b)(2)):

It is the policy of the NPS to represent the national interest regarding recreation and cultural resources, and to assure that hydroelectric projects subject to re-licensing recognize the full potential for meeting present and future public outdoor recreation demands, while maintaining and enhancing a quality environmental setting for those projects. Identifying the potential effects of fluctuating reservoir levels on recreation, cultural, and environmental resources is consistent with NPS policy and FERC guidelines to identify project impacts and enhancements.

Criteria 3: Resource Agency Status of Requestor and Relevant Public Interest (§5.9(b)(3))

The NPS is a resource agency. It is in the public's interest to fully document Project operation influences on Gile Flowage elevations and potential effects on reservoir recreation and environmental resources during this original licensing effort. The Programmatic Agreement (PA) outlined by the State Historic Preservation Office provides guidance on cultural resource studies and impact assessments.

Criteria 4: Existing Information and Need for Additional Information (§5.9(b)(4))

The PAD provides no information on how fluctuating reservoir levels impact recreation, environmental, and cultural resources in Gile Flowage. Table 3.3.1-1 on page 16 of the PAD identifies Gile Flowage storage reservoir project historical drawdown levels, which can be used in analysis.

Criteria 5: Nexus to Project (§5.9(b)(5))

Gile Flowage reservoir level changes in response to Project operation and can directly impact reservoir recreation. Low water levels can potentially reduce reservoir boating access if boat ramps do not extend to low water levels and if areas of the reservoir become too shallow for boating or otherwise affects boating safety. Changes in reservoir levels can also impact access to and integrity of shorelines for purposes of fishing; swimming or water play, launching canoes, kayaks, and other boats that don't require a ramp; hiking; wildlife; and other shoreline-related activities. Shoreline erosion may also threaten cultural resources.

Criteria 6: Study Methodology (§5.9(b)(6))

a. Study Sites

The study area for the recreation aspect of this study is Gile Flowage, including all developed boat launches and informal access sites; the study area for the environmental aspect of the study is Gile Flowage Applicant-owned shorelands. The PA for cultural resources provides guidance on study methodology and site determination.

b. Study Methods

The functionality of all boat ramps at Gile Flowage should be determined from a combination of information from as-built drawings and actual field measurement. Each boat ramp should be photographed and examined for erosion, sediment accumulation, invasive aquatic plants prohibiting recreational access, or other impacts due to reservoir fluctuations. Considering boat trailers need to be submerged on the ramp to launch, the functional limit of the boat ramp elevations should be based on an elevation that is 4 vertical feet higher than the end of the ramp.

Data on historical daily average reservoir level and fluctuations for Gile Flowage can be used in this assessment to show the average daily reservoir levels for each month overall and by water year type for comparison with the "functional elevation" of the boat ramps. The number of days when the boat ramps are functional, overall and by water year type, should be identified. Data for extreme low reservoir levels should be presented as well.

The study should also incorporate data collected from boaters and other reservoir recreationists from visitor use questionnaires (gathered from NPS Study Request #1). Information collected from these questionnaires will help to determine if there are specific reservoir locations where boating access from shore or from water becomes challenging or impossible, including obstacles of sedimentation and invasive aquatic plants, as the reservoir level lowers as well as perceived impacts on shoreline access for various recreation purposes.

The study period for analyzing reservoir levels would coincide with the comprehensive recreation study period (see NPS Study Request #1). As part of the analysis, and in consideration of possible protection, mitigation, and enhancement measures, the effects of changes in Project operations during various seasons and water year types should be evaluated, along with the possible benefits from adjusting minimum reservoir levels.

The study should describe naturally vegetated Applicant-owned shoreline properties and their contribution to environmental resource protection. These contributions including shoreline stability and conservation of environmental resources such as habitat and aesthetics.

c. Analysis

Results from this study should be included in a report that describes resource protection management options. Report information should be incorporated into an Applicant prepared Shoreline Management Plan and Recreation Resource Management Plan.

Criteria 7: Level of Effort and Cost (§5.9(b)(7)

The cost would be contingent on the billing rate arrangement with the Applicant's consultants (rate is not known).

E. CONCLUSION

The NPS appreciates the opportunity to provide comments on the PAD for Gile Flowage and making three study requests. We look forward to working with the licensee, stakeholders, and FERC on this license application. Should you have any questions regarding these comments, please contact me at 414.297.3605 or angie_tornes@nps.gov.

Sincerely,

Angela M. Tornes, NPS Interior Regions 3,4,5 Manager
Hydropower Assistance Program

Document Content(s)

March 17, 2021

Ms. Kimberly D. Bose, Secretary

Federal Energy Regulatory Commission

888 First Street, NE

Washington DC 20426

Re: NOTICE OF INTENT TO FILE LICENSE APPLICATION, FILING OF PRE-APPLICATION DOCUMENT (PAD), COMMENCEMENT OF PRE-FILING PROCESS AND SCOPING, REQUEST FOR COMMENTS ON THE PAD AND SCOPING DOCUMENT, AND IDENTIFICATION OF ISSUES ON THE PAD AND SCOPING DOCUMENT, AND IDENTIFICATION OF ISSUES ASSOCIATED WITH STUDY REQUESTS

Gile Storage Reservoir (GSR), FERC No. 15055-000, West Branch Montreal River, Iron County, Wisconsin and Gogebic County, Michigan

Dear Secretary Bose:

The River Alliance of Wisconsin (RAW) has reviewed the PAD and Scoping Document referenced above by the FERC Notice dated 01/19/21. The RAW does not have specific comments on the PAD, prepared for Mead & Hunt for Xcel Energy (XE) and dated 11/20/21, or the FERC's Scoping Document 1. Rather the RAW will discuss the issues with licensing the project in the context of study requests.

GENERAL COMMENTS

To satisfy obligations under sections 4(e) and 10(a) of the *Federal Power Act*, as amended, and *Electric Consumers Protection Act*, among other legislation, the FERC must give equal consideration to developmental and environmental interests when issuing a new license. Further, when making licensing decisions, the FERC is required to develop measures for the protection of environmental resources and enhancement of recreational facilities to ensure that licensing is accomplished in the best interest of the general public as well as to the Applicant. The FERC licensing process for hydro projects is a public process. The RAW participates in hydro relicensing proceedings as a Non-Governmental Organization. The RAW is a not-for-profit organization

RIVER ALLIANCE of WISCONSIN
147 S. Butler Street, Suite 2
Madison, WI 53703
info@wisconsinrivers.org
608.257.2424
wisconsinrivers.org

consisting of many stakeholder groups and concerned citizens statewide. Further, through the relicensing process the RAW advocates for river restoration, protection, and enhancement of fish and wildlife species and the habitats upon which they depend, and enhancement of recreational resources at the project within and contiguous to the project boundary. The RAW has a long history of being active in relicensing projects in Wisconsin and the Upper Peninsula of Michigan.

The RAW intends to participate in relicensing this project and we recommend several environmental studies as described below. We believe they need to be conducted by XE or their Consultants to provide FERC staff the necessary information to prepare the draft *Application for License* and *Environmental Assessment* (EA).

Gile Storage Reservoir (GSR) project information

-Minimum flow release of 10 cfs must be released at all times from the reservoir into the West Branch of the Montreal River

-Minimum reservoir elevation allowed is 1,475 ft. mean sea level (msl) and the maximum elevation allowed is 1,490 ft. msl.

-Maximum depth of 25 ft.

-Reservoir size is 3,317 acres at a full pool at elevation of 1,490 ft. msl.

-A 15-foot drawdown is allowed to augment river flow to the Saxon Falls and Superior Falls hydro projects located about 17 miles downstream on the Montreal River

REQUESTED STUDIES

1.Drawdown study. We recommend a drawdown study be done that includes use of a reservoir/flow routing model.

I. *Describe goals and objectives of each study proposal and information to be obtained.*

The goal of the study is to identify alternative drawdown scenarios that compare power generation (KWs) with other uses of the GSR including recreational use and protection of the aquatic community and the habitats upon which they depend. Very little information was presented in the PAD on the impacts of the GFR seasonal drawdown cycle. We recommend that XE use a *Reservoir/Flow Routing Model* to help all stakeholders evaluate drawdown impacts. We recommend that selected minimum flow discharges (such as 10, 15, 20 cfs)

from the dam be presented that correspond to drawdown levels (ft. msl) needed to support the minimum flow through the Gile Dam. The specific discharge flows to model should be derived from consultation with the resource agencies and other interested stakeholders. The amount and value of the power that would be generated at each scenario would also be helpful. The modeling would provide a scientifically based evaluation that will help all concerned stakeholders balance power production with water levels and flows that protect fish and wildlife habitat and provide suitable recreational use in the GSR.

II. *Explain the relevant resource management goal of the agencies or Native American tribes with jurisdiction over the resource to be studies.*

We defer to the resource agencies and/or Native American tribes to comment on that criteria.

III. *If the requestor is not a resource agency, explain any relevant public interest considerations.*

Seasonal drawdowns can affect the GRF reservoir in many ways including:

-dewater the shoreline and adversely affect the natural growth cycle of emergent and submergent aquatic plants

-create unstable habitat for aquatic life by fluctuating the water level

- reduce living space and otherwise degrade the habitat in the littoral zone

-potentially result in fish kills if the impoundment is drawn down several feet in winter to the point that dissolved oxygen levels in the remaining water column become too low (i.e., less than 5 mg/l) due to decomposing vegetation and other organic debris

-the water volume in the GRF is greatly reduced at a maximum drawdown of 15 ft. and as such, the remaining living space for fish and other aquatic life is reduced.

IV*. Describe existing information concerning the subject of the study proposal and the need for additional information.*

The PAD describes some information on seasonal drawdowns but it is not adequate to determine environmental effects.

V. *Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements.*

The nexus is that the project uses the Gile Flowage as a storage reservoir to augment flow to two XE-owned hydro projects a few miles downstream. The drawdowns occurring in the GFR are not natural but rather directly implemented to support hydro project operation.

VI. Explain *how any study methodology is consistent with generally accepted practice in the scientific community;*

Reservoir/flow routing models are commonly used by the scientific community to address drawdown/flow impacts. The type of model to be used depends on the goals of the study. The study methodology used should be a reservoir/flow routing model typically used by Consulting Firms and is endorsed by the Wisconsin DNR and/or Michigan DNR. Please consult resource agency staff and also, please send a draft scope of work of the modeling plan to the Agencies, RAW and other Stakeholders as appropriate for review.

VII. *Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information need;*

We believe that XE and their Consultants are in a much better position with their well-established contacts with consulting firms to scope out the costs and level of effort for relicensing studies; therefore, we will not comment on this criterion.

2. Mussel survey. In consultation with the Wisconsin DNR, Michigan DNR and US Fish and Wildlife Service (FWS), conduct a mussel study in the GSR.

I. *Describe goals and objectives of each study proposal and information to be obtained;*

The goal of the study is to determine mussel species density and diversity, including characterizing mussel habitat in the reservoir.

II. *Explain the relevant resource management goal of the agencies or Native American tribes with jurisdiction over the resource to be studies;*

We defer to the resource agencies and/or Native American tribes to comment on that criteria.

III. *If the requestor is not a resource agency, explain any relevant public interest considerations;*

In accordance with the *Public Trust Doctrine*, the mussel community is an aquatic resource that is owned by the public and to be protected by all water resource users, including licensees operating hydro projects and storage reservoirs. In general, mussels in Wisconsin and Michigan Rivers are in peril. Mussels are an important component of a river system and are sensitive to changes to water level fluctuations in a reservoir and to flow discharge fluctuation in the tailwater of a dam. Mussels are not very mobile and can be easily adversely affected by hydro operations in terms of species diversity and relative abundance within the zone of fluctuation. There is also good reason for a mussel study to document the presence of any state or federal threatened or endangered species that may occur in the project area. Without this knowledge, it is not possible to develop protection strategies for the listed mussels.

IV*. Describe existing information concerning the subject of the study proposal and the need for additional information;*

Very little information about mussel species and distribution in the GSR is stated in the PAD, apparently because there is not much data available. To accurately describe the mussel community currently inhabiting the project area and to enable the licensee to prepare an accurate environmental report (Exhibit E) for the license application, we recommend that a mussel survey be conducted in the GSR.

V. *Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements*

The nexus is that the mussels live in habitat directly affected by the day-to-day and seasonal operation of the GFR. Since mussels exhibit slow mobility, they are sensitive to changes in water levels (and flow discharge fluctuation). The GSR drawdowns can profoundly affect natural water levels in the lake from a normal yearly precipitation cycle.

VI. Explain *how any study methodology is consistent with generally accepted practice in the scientific community;*

The study methodology used should be one that is accepted as credible and valid by the Wisconsin DNR, Michigan DNR and FWS mussel experts. The Wisconsin DNR has available "*Guidelines for sampling freshwater mussels in wadable streams*" which can help XE develop a plan of study. Michigan DNR likely has similar guidelines.

VII. *Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

Please reference our statement in Criteria VII. stated above under study request No. 1.

3. Aquatic and terrestrial invasive species study (A&TIS). Conduct an ATIS study in GSR.

I. *Describe goals and objectives of each study proposal and information to be obtained;*

Infestation of project waters with A&TIS can substantially degrade the quality of the aquatic habitat for native vegetation and the quality of experience to the recreating public. It is critical to identify what A&TIS species are present so they can be removed or controlled before they become infested.

II. *Explain the relevant resource management goal of the agencies or Native American tribes with jurisdiction over the resource to be studies.*

We defer to the resource agencies and/or Native American tribes to comment on that criteria.

III.*If the requestor is not a resource agency, explain any relevant public interest considerations;*

Aquatic invasive species (AIS) such as purple loosestrife, Eurasian watermilfoil, and curly-leaf pondweed are invasive wetland plants which out-compete many other valuable wetland plants and can dominate the species composition of a wetland or aquatic macrophyte bed in a few years. There is little food value for wildlife from purple loosestrife and other AIS; accordingly, infestation of valuable wetlands by AIS is extremely undesirable

and harmful. Eurasian watermilfoil, curly-leaf pondweed, and other AIS can rapidly cause aquatic weed problems and alter fish communities by providing too much refugia leading to overpopulation and/or growth stunting problems in reservoirs and flowages. Terrestrial invasive plants create the same pattern and can out-compete native vegetation as well. The objective of a study is to update current information on what A&TIS occur in the GSR and land within the project boundary.

IV. *Describe existing information concerning the subject of the study proposal and the need for additional information;*

It is necessary to document the current environmental setting of the project to update the A&TIS information so the licensee, resource agencies and other stakeholders can develop strategies for control/management invasives.

V. *Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements*

The nexus is that the A&TIS present are living in the aquatic and riparian environment of the Gile Flowage, which was modified to support and augment hydro power production downstream.

VI. Explain *how any study methodology is consistent with generally accepted practice in the scientific community;*

The study methodology used should be one that is accepted as credible and valid by the Wisconsin DNR and Michigan DNR. The Wisconsin DNR has guidelines included in their *Point Intercept Method* for sampling aquatic plants and also their *Rapid Response Guidelines* for A&TIS. Please consult resource agency staff.

VII. *Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

Please reference our statement under Criteria VII above under study request No. 1.

4. Aquatic plant study. Conduct an emergent and submergent aquatic plant study in the GSR.

I. *Describe goals and objectives of each study proposal and information to be obtained;*

The goal of the study is document and update species diversity and relative abundance of native aquatic plants in the GSR.

II. *Explain the relevant resource management goal of the agencies or Native American tribes with jurisdiction over the resource to be studies.*

We defer to the resource agencies and/or Native American tribes to comment on that criteria.

III. *If the requestor is not a resource agency, explain any relevant public interest considerations;*

The aquatic plant community is another of many natural resources that a Utility is obligated under the *Public Trust Doctrine* to protect for the privilege of using public waters to generate hydropower. An up-to-date aquatic plant study is needed to characterize the existing plant community so a mitigation strategy to protect aquatic plants can be developed, if needed, by the resource agencies that is compatible with drawdowns that support hydropower production.

IV*. Describe existing information concerning the subject of the study proposal and the need for additional information;*

It is well known by the scientific community that reservoir drawdown affects the aquatic plant community, sometimes for the perceived "good" and sometimes to the disadvantage of prospering native plants. In fact, at times drawdowns are used by resource managers to reduce the abundance of native plants and/or invasive aquatic plants. Up-to-date information is needed first before the resource agencies and other Stakeholders can evaluate whether or not future changes in reservoir drawdowns are needed in terms of satisfying the need for protecting plants and being compatible with recreational use and hydropower production.

V. *Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements;*

The nexus is that native aquatic plants inhabit the littoral zone of the GSR and are directly affected by daily and seasonal drawdown cycles that are intended to augment hydropower production at the Saxon Falls and Superior Falls Projects downstream.

VI. *Explain how any study methodology is consistent with generally accepted practice in the scientific community;*

The study methodology used should be one that is accepted as credible and valid by the Wisconsin DNR and Michigan DNR. Please consult resource agency staff as they have guidance available to help design an aquatic plant study.

VII. *Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

Please reference our statement under Criteria VII above under study request No. 1.

5. Fish Study. Conduct a fishery survey in the GSR.

I. *Describe goals and objectives of each study proposal and information to be obtained;*

Fishery data described in the PAD is derived from Wisconsin DNR fish surveys last conducted from 1979 – 1987. To accurately describe the fish community currently inhabiting the GSR and to enable the licensee to prepare an accurate environmental report (Exhibit E) for the license application, we recommend that fish community information be updated to include data on species composition and frequency of abundance.

II. *Explain the relevant resource management goal of the agencies or Native American tribes with jurisdiction over the resource to be studies;*

We defer to the resource agencies and/or Native American tribes to comment on that criteria.

III. *If the requestor is not a resource agency, explain any relevant public interest considerations;*

The angling public depends on the Wisconsin DNR to manage game and nongame fish that are popularly fished in the GSR. The DNR needs up to date information to formulate effective game and nongame fish management strategies.

IV*. Describe existing information concerning the subject of the study proposal and the need for additional information;*

Existing information concerning past fishery surveys would be available in Wisconsin DNR published and unpublished reports and electronic data bases. Again, the DNR needs up to date information to formulate effective game and nongame fish management strategies.

V. *Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements:*

The nexus is that the aquatic environment created when the GSR Dam was built impounded flowing/riverine habitat in the West Fork of the Montreal River. Because of the dam, fish habitat was converted to more lake-like habitat with the creation of am impoundment (flowage).

VI. Explain *how any study methodology is consistent with generally accepted practice in the scientific community;*

The study methodology used should be in accordance with *standard sampling protocol* (fyke netting, seining, electrofishing techniques) used by the Wisconsin DNR and Michigan DNR. The DNR likely has guidelines available for use by the Utilities in developing a plan of study. The Wisconsin DNR *Fish Indices of Biological Integrity* may help in planning. Please consult resource agency staff.

VII. *Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

Please reference our statement in Criteria VII. stated above.

6. Recreation Study. Evaluate the existing condition of recreational facilities and document needed upgrades. Update the existing recreational brochure (if there is one) or prepare a new one to serve as a guide for the

public. Prepare a draft *Recreation Plan* for the project to be reviewed by the resource agencies and other stakeholders.

I. *Describe goals and objectives of each study proposal and information to be obtained;*

The goal of this study is for the licensee to develop a *Recreational Plan* for the project. The information generated by a recreational use study will be useful to the Resource Agencies, Native American Tribes, other Stakeholders and general public in terms of what recreational facilities are present, including where they are, what condition they are in and what types of recreation they accommodate. The plan should also document the need for any new recreation sites. The *Recreation Plan* will provide a guide for the Licensee to implement during the period of the new license. The draft plan should be available for review by all concerned Stakeholders.

II. *Explain the relevant resource management goal of the agencies or Native American tribes with jurisdiction over the resource to be studies;*

We defer to the resource agencies and/or Native American tribes to comment on that criteria.

III. *If the requestor is not a resource agency, explain any relevant public interest considerations;*

The reservoir and rivers impounded by hydro projects have long ago become major sources of recreation for the public. The FERC's permission via a license for a Utility to use an impoundment and/or flowing river to generate hydropower mandates that recreational facilities (among many other environmental considerations) be installed within the project boundary and kept in good condition for public use. People are entitled through the *Public Trust Doctrine* to use the reservoirs and riverine sections impounded by dams for recreational use. This includes fishing, boating, hiking, bird watching, picnicking, camping, and other non-consumptive wildlife-oriented use. When a project undergoes licensing, that is a logical time for a Utility to do a recreational use study and develop a *Recreational Plan*.

IV*. Describe existing information concerning the subject of the study proposal and the need for additional information;*

It is necessary for XE to do a recreational use study in order to prepare an accurate *Recreational Plan* for the GSR. Please consult the resources agencies, city, and county offices and the local lake groups for information on

public use of the project area. Although there is some information on recreation facilities and use in the PAD, we believe it is inadequate for the license application and inadequate to make decisions on recreation needs.

V. *Explain any nexus between project operations and effects on the resource to be studied and how the study results would inform the development of license requirements;*

The flowages impounded by the hydro projects and associated shoreline created opportunities for public use including boating, fishing, picnicking, hunting (where allowed) and wildlife-oriented recreation. Typically, FERC licensed project waters are used heavily by the public.

VI. Explain *how any study methodology is consistent with generally accepted practice in the scientific community;*

The study methodology used should be one that is accepted as credible and valid by the Wisconsin DNR, Michigan DNR and National Park Service. Please consult with resource agency staff.

VII. *Describe consideration of level of effort and costs, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

Please reference our statement in Criteria VII. stated under study request No. 1.

<u>Project lands</u>

Often during licensing or relicensing the Applicant seeks to divest land within the project boundary that they feel is not necessary for project operations. Often the land is sold to the private sector which then removes the land from public access and use. The RAW is opposed to land withdrawal and strongly recommends that the FERC not approve, or Order land removed from the project boundary. Typically, project land has a high value for public recreational use such as hiking, picnicking, bird watching, hunting (in some cases) and other wildlife-oriented activity.

Please send for our review draft study plans and licensing study reports.

We look forward to our participation in licensing this project to help accomplish environmental protection and improvement at the GSR. If you have questions on our comments, please contact me at (608) 257-2424 (ext. 115). Also, please feel free to contact our Hydro Consultant, James Fossum at (507) 429-9129.

Sincerely,

Raj Shukla

Executive Director

Cc: Matt Miller, Xcel Energy, Eau Claire, WI

Shawn Puzen, Mead and Hunt, Inc., Madison, WI

Nick Utrup, U.S. Fish and Wildlife Service, Bloomington, MN

Angela Tornes, National Park Service, Milwaukee, WI

Cheryl Laatch, Wisconsin DNR, Horicon, WI

Elle Gulotty, Michigan DNR, Norway, MI

Amira Oun Michigan Depart. of Environment, Great Lakes and Energy, Lansing, MI

Bob Stuber, Michigan Hydro Relicensing Coalition, Traverse City, MI

Cathy Techtmann, Friends of the Gile Flowage, Montreal, WI

James Fossum, *JDFossum Environmental Consulting*, Winona, MN

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
2984 Shawano Avenue
Green Bay WI 54313-6727

March 5, 2021

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First Street, N.E.
Washington, DC 20426

RE: Wisconsin Department of Natural Resources Comments on Notice of Intent, Scoping Document 1, Preliminary Application Document, and Studies Request for the Gile Flowage Storage Reservoir Project (P-15055-000) Licensing.

Dear Secretary Bose:

The Wisconsin Department of Natural Resources (WDNR) appreciates the opportunity to participate in the licensing process of the existing development at the Gile Flowage Storage Reservoir Project (Gile Flowage), as proposed in the FERC Scoping Document 1 and Xcel Energy Preliminary Application Document (PAD). This dam is currently unlicensed by Xcel Energy, under Project P-15055.

The Gile Flowage is an unlicensed headwater storage reservoir that provides seasonally uniform streamflow for hydroelectric generation at the downstream Saxon Falls and Superior Falls Projects. The Gile Flowage is located within the towns of Pence and Carey, Iron County, Wisconsin.

The WDNR has limited information regarding natural resource information associated with the dam and its project area. Studies associated with Gile Flowage licensing have different purposes, from a short term, long term, and cumulative impact. The WDNR has carefully considered our responsibilities under the Clean Water Act and Navigable Waters Public Trust Doctrine for the proposed licensing of Gile Flowage.

We are providing comments to the Notice of Intent, Scoping Document 1, the PAD, and are recommending the following studies be completed. Each study is presented as appropriate for the various alternatives that could be evaluated as part of the comprehensive review and assessment of the project area.

As Xcel Energy begins to evaluate the array of study requests, and determine their study proposal and next steps, the WDNR will continue to provide guidance and recommendations.

To save time and costs, the WDNR recommends that studies be combined, and that the licensee meet with the stakeholders who have requested studies to explore their options and still achieve desired data collection. We also recommend exploring the use of citizen monitoring groups and organizations.

The licensee should continue to work with the WDNR to collect resource information and develop study plans and protocols. If new information becomes available through the relicensing process, we reserve the rights to require additional studies to gather appropriate information.

Please direct all inquiries to the Project Manager:

Cheryl Laatsch, Statewide FERC Coordinator

If you have any questions or comments regarding our recommendations, please contact me at 920-387-7869, or Cheryl.laatsch@wisconsin.gov. We look forward to working with you.

Regards,

Cheryl Laatsch
Statewide FERC Coordinator
Wisconsin Department of Natural Resources

Comments on Pre-Application Document
Gile Flowage (P-15055)

3.2.1.1 Right Earthen Dam Section

A drain system consisting of vitrified clay pipe spaced 14 feet wide on center extends from the sheet pile cutoff wall to the embankment toe. A seepage drainage ditch collects water from the drains and conveys it to the tailrace.

- Provide more information on volume of water, frequency (continuous vs seasonal), and duration of the seepage drainage ditch collecting and conveying water to the tailrace.
- Provide information on the impact or consideration this water has on minimum flow.

3.2.1.1 Concrete Spillway Section

There is no back up method for sluice gate operation.

- The WDNR requests that a back system be created for the sluice gate. The WDNR prefers to have a backup system for everything that relies on purely mechanical means. The Dam Failure Analysis (DFA) approval for this dam found that it has adequate capacity for the 1,000-year event, and the much larger tainter gate provides the bulk of capacity during flood events. The tainter gate does have a backup system in case of power/mechanical failure.
- Please provide pictures that show both the sluice gate and tainter gate together to give an idea of how they work together

A concrete slab supports the rollway and downstream walls and forms the bottom of the stilling basin.

- Provide more information on the stilling basin, including size, capacity, annual fluctuations
- Provide pictures of the stilling basin without water flowing to demonstrate what condition it is in. A failure of that slab could propagate back into the main structure.

3.2.1.2 Reservoir

Provide ordinary high-water mark information and how this was determined

3.2.2 Project Boundary

NSPW operates and maintains the facility and currently owns approximately 1,200 acres of land around the reservoir

- Verify this description using Xcel Energy data and documentation

3.3.1 Current Operation

The Licensee's records document a "gentleman's agreement" allowing for a maximum drawdown of 15 feet or elevation 1475.0'.

- Provide documentation

The Project was created to augment river flows during summer and winter low-flow periods for hydroelectric generation downstream at Saxon Falls and Superior Falls.

- Define the term "low-flow" for both the summer and winter periods
- If Gile flowage created generation for Saxon and Superior Falls, operations at Gile would have to be determined in tandem with water level management from downstream of Gile to Saxon and Superior Falls. Since Gile is specifically created for operations of the downstream dams, the project boundary for Gile should extend to Saxon Falls. Please provide additional information on how the project boundary was determined to not expand beyond the Gile Flowage Dam.

A minimum flow of 10 cfs has historically been passed downstream of the Project dam in accordance with an agreement with the village of Montreal.

- Provided documentation and references for this decision
- Provide more information on how a minimum flow of 10 cfs relates to the "low-flow" period for the summer and winter periods

A block in the bottom of the sluice gate is used to ensure 10 cfs of flow is maintained at all times.

- Provide more information on other mechanisms that are used to control flow (cfs)
- Describe the "block" in greater detail

While a 15-foot drawdown is allowed, [Xcel Energy] has minimized the drawdowns. The summer drawdown averaged 5.2 feet and the winter drawdown averaged 6.8 feet between 1984 and 2017.

- Provide more information on why this timeframe was used
- Provide more information on drawdowns since 2017
- Provide details on the criteria used to determine summer and winter drawdown timing, depth, and duration

The maximum summer drawdown during this timeframe was 7.8 feet and the minimum was 1.8 feet. The maximum winter drawdown during this timeframe was 10.9 feet and the minimum was 1.4 feet.

- Explain significant differences between minimum and maximum drawdown elevations in summer and winter
- Explain the purpose of drawdowns during summer and winter (double drawdowns)

Summer drawdown typically begins around May 1 of each year or after spring runoff has passed.

- Summer drawdown beginning May 1 is occurring at a time of year most critical for fish spawning. Following local fishing regulations, smallmouth bass cannot be harvested until after mid-to-late June, and spawning may still be occurring during this time. Fish are spawning in 1-3 feet of water, and during a May 1st drawdown, the spawning beds dry up, including all areas of the littoral zone. Additionally, WDNR fisheries staff have encountered actively spawning panfish in July during past netting events. The WDNR recommends summer drawdowns occur no earlier than July 1st to protect fish spawning.

Winter drawdowns generally begin around December 1 each year and continue into the spring when the flowage is replenished from spring runoff and rainfall.

- Winter drawdowns beginning around December 1st conflict with survival of hibernating species, including the wood turtle . Drawdowns beginning around December 1st will not be covered by the Wood Turtle Broad Incidental Take Permit. The WDNR recommends that all work within the project area be conducted during the minimum active period for Wisconsin's amphibian/reptile species: May 1-September 30. If the project area has been down for an extended period of time and turtle nesting habitat has been created, refill should occur outside of the turtle nesting season. Please see the Gile Licensing ER Review for specific time requirements.
- Both summer and winter drawdowns may cause substantial recreational and resource impacts due to the time of year, and lack of stabilization (magnitude of water levels)
- Show when drawdowns occur on Table 3.3.1-1

3.3.2 Proposed Operation

NSPW is proposing to continue operating the Project in the same manner it is currently operated.

- Not enough info is known about current dam operations and how resources and recreational impacts are minimized

4.1 General Description of the Project Area (18 CFR § 5.6(d)(3)(xiii))

The small size of the watershed and the steep gradient of the river and rocky nature of the terrain produce rapid changes in stream flow

- This statement is from 1991, and may no longer be relevant. Additionally, this statement is subjective and not based on quantified data. Provide updated data.

4.1.3 Major Water Uses

- Identify where Montreal River waterfalls and Flambeau Trail are located

The Gile Flowage Storage Reservoir Project dam was completed in 1940 on the West Fork of the Montreal River and was built in the same location as a former lumber company dam originally constructed in 1885

- Provide more information on the generation, usage, and flows of Gile Flowage in 1940.
- Provide more information on the Saxon and Superior Falls operations prior to the Gile dam being established

4.1.4 Project Impoundment

The Project Dam impounds the West Fork of the Montreal River approximately 17 miles upstream of the Saxon Falls Dam.

- Provide more information on other tributaries and/or water sources that contribute to Saxon and Superior Falls operations

4.2.3 Impoundment Shoreline Conditions

The Project shoreline consists of approximately 26 miles of irregular shaped points and bays with numerous areas of exposed bedrock.

- Verify if this information is based on dewatering events.
- Describe how many miles or square area of the shoreline is exposed during 15ft drawdowns
- Provide minimum, mean, and maximum shoreline exposure areas
- Provide a contour map showing what the project area looks like under different drawdown conditions

4.3.2 Streamflow, Gage Data, and Flow Statistics

Monthly flow duration curves for the Project were developed based on data recorded at USGS Gage No. 04029990, which is located approximately 20 miles downstream of the Project at the Saxon Falls powerhouse.

- Explain how the gage station 20 miles downstream of Gile accurately measures and represents Gile flowage and flow duration curves. Should a gage station be placed closer to Gile to better capture flow data?
- Explain how Gile flow is calculated if flows are being measured at the Saxon Falls powerhouse
- Explain how minimum flows are below 10 cfs, as presented in Table 4.3.2-1
- Explain how drawdown rates, duration, and frequency correspond to the monthly flows presented in Table 4.3.2-1. Which flows are naturally occurring and which are manipulated?
- Provide more information on the calculations and reasoning that determined the amount of water from Gile needed to generate operations at Saxon and Superior Falls

The gage location has a drainage area of 262 square miles adjusted for the drainage area of 75 square miles at the Project dam.

- Provide more information on this statement

4.3.7.1 River Water Quality Standards

- Explain if this section relates to Saxon Falls or Gile. This section does not mention Gile Flowage or the Montreal River between Gile and Saxon Falls
- Provide more information on warm water criteria being met year-round. Only summer data has been collected by the WDNR
- Provide more information on water quality data during winter drawdowns
- Provide water quality data from the Wisconsin lake association, Friends of the Gile Flowage (FOG)

Reservoir Water Quality Standards

Under NR 102.06, a waterbody is considered a reservoir if there is a dam that raises water depth more than two times to conditions prior to dam construction, and that has a mean water residence time of 14 days or more under summer mean flow conditions.

- Provide more information on how May 1st drawdowns affect residence times
- Verify if the mean residence time exceeding 14 days is due to artificially moving water in the summer or is occurring naturally

4.4.1 Fish and Aquatic Communities

The WDNR Fish Mapping Application was used to identify fish species within the Project reservoir that are representative of the Project

- The WDNR has previously advised Xcel Energy that the Fish Mapping Application is not maintained or updated, and should not serve as the single data source
- Additional fisheries data was provided by WDNR and was not included under 4.4.1 as part of assessment and summary of fisheries information. All fisheries information should be compiled and summarized.

- A large scale tree drop/woody habitat project was completed by the WDNR and local lake association to create habitat and cover for panfish species because there is no vegetative or structural cover for fish species when drawdowns occur. The impact of no available habitat is that predation easily occurs on panfish because there is no protection.

4.4.1.2 Mussels

The WDNR maintains a database of mussel observations that can be searched by county and stream. A review of the database for Iron County identified two mussel species within the Montreal River, Cylindrical papershell (Anodontoides ferussacianus) and Eastern elliptio (Elliptio complanata) (WDNR, 2019c).

- The WDNR does not have mussel data from within the Gile Flowage and has very limited mussel data from within the Montreal River. Even though the information provided from the PAD states that the data

is from 2019, this data is actually from the 1970s. The WDNR will be requesting a mussel survey as part of the licensing process for Gile Flowage.

4.5.2.3 Reptile and Amphibian Species

Although no records of herpetological species surveys were found during literature review, based on the existing habitat within Iron County, Wisconsin, and the geographical range, it is likely a variety of frogs, snakes, turtles, and salamanders exist in the area.

- It is true that no records are available, and it is because surveys have not been completed. Please review the Endangered Resources Review that was provided. Assessments of available habitat for various common herp species would be appropriate.

4.8 Recreation and Land Use (18 CFR § 5.6(d)(3)(viii))

- Provide more information on how water manipulation effects the use of boat landings
- Provide more information on how water manipulation effects the configuration, design, and maintenance of boat landings
- Provide more information on which islands are public and which islands are owned by Xcel Energy
- Provide additional information about public access and the impacts of the drawdowns

5.3 Mitigation Enhancement

The Licensee is proposing the following mitigation and enhancement measures at the Gile Flowage:

- *Continue to maintain a minimum flow of 10 cfs, or inflow, whichever is less, into the West Fork of the Montreal River to protect aquatic resources.*
- *Continue to maintain reservoir elevation of the Gile Flowage between a minimum elevation of 1475.0 feet and a maximum elevation of 1490.0 feet.*

- These are not mitigation or enhancement measures, and should be removed from this section

As a result, the Licensee does not propose any additional protection, mitigation, or enhancement measures for the purposes of this relicensing process.

- These are not mitigation or enhancement measures, and should be removed from this section

Other

- The dam has an outstanding work directive to fix rip rap along the right abutment from the 2017 inspection, but the 2019 inspection doesn't mention if it was fixed or not.
- The dam is scheduled for inspection this year.
- Any public documents filed with FERC should have endangered, threatened, and rare species information redacted.

Study Requests

Gile Flowage (P-15055)

ASSESSMENT OF MINIMUM FLOW, DRAWDOWNS, AND RESOURCE IMPACTS AT GILE FLOWAGE

• Goals and Objectives: Determine if the project minimum flow of 10 cfs, a maximum drawdown of 15 feet (or elevation of 1475.0'), and drawdowns during the summer and winter are providing sufficient flows and environment for aquatic resources.

• Relevant DNR Management Goals: Ensuring that the aquatic environment is maintained in a healthy state, which includes protection of rare and listed species. Consideration for impacts to wildlife that will be hibernating would be adversely affected by drawdowns. Sediment loading impacts from frequent drawdowns and loss of recreational opportunities, due to limited access, are affected by drawdowns. If a drawdown or refill is performed too quickly, turbid water can flow down river, depending on the water flow rate. Sediment can also settle out at the base of the Gile Flowage dam, creating water quality and habitat issues. Currently, drawdowns during the winter are not in compliance with the Wood Turtle Broad Incidental Take Permit/Authorization. In order for these drawdowns to continue, an individual Incidental Take Permit will be needed.

• Existing Information: The Licensee's records document a "gentleman's agreement" allowing for a maximum drawdown of 15 feet or elevation 1475.0'. The Gile Flowage was created to augment river flows during summer and winter low-flow periods at the downstream Saxon Falls and Superior Falls Projects. Both Projects are heavily dependent upon flow augmentation from the Gile Flowage during these low-flow periods. A minimum flow of 10 cfs has historically been passed in accordance with an agreement with the Village of Montreal. A block in the bottom of the sluice gate is used to ensure 10 cfs of flow is maintained at all times.

• Operation nexus to resource and how informs license: Ensure Gile Flowage is meeting the intent of augmenting river flows during low-flow periods, and not causing harm to the downstream aquatic ecosystem. Additionally, provide further detail on how hydroelectric operations are dependent upon these drawdowns and this flow.

• Methodology: Evaluate the current minimum flow, maximum drawdown, and summer and winter drawdowns. Habitat should be evaluated with the Quantitative Habitat Assessment Methodology downstream of the impoundment at various flows and tied to a cfs discharge. Provide a copy of Chapter 31 approval and operation plan that permits the drawdowns and the minimum flow. Provide any additional documentation supporting this "gentleman's agreement" and any WDNR protocols analyzing it. Installation of water level sensors to record changes in water levels and flows within 15 minute increments, with the intent of documenting the frequency and degree of water level fluctuations throughout the year.

• Level of Effort and Cost: Staff time is expected to be 20-40 hours of field work at $125 per hour, plus costs for equipment.

ASSESSMENT OF STREAM FLOWS, CHANNEL DIMENSIONS, AND LINEAR GRADIENT AT GILE FLOWAGE

• Goals & Objective: Determine the impact the proposed project has on the existing stream flows, channel dimensions and linear gradient of the Montreal River downstream of the flowage.

• Relevant DNR Management Goals: The proposed study would investigate the impacts the project would have on the existing stream flows, channel dimensions, and linear gradient of the Montreal River. The impacts that the project may cause on the existing stream flows, channel dimensions and linear gradient may alter any resource, recreational, and developmental management plans for the future.

• Existing Information: Data is limited or not available.

• Operation nexus to resource and how informs license: The proposed licensing of Gile Flowage has the potential to have short term and long-term impacts on the aquatic community of the Montreal River downstream of the impoundment. These impacts include but are not limited to dewatering and limiting available aquatic habitat in the downstream river channel depending on stream discharge. These impacts can vary by season as well as daily. Proper management of the resource will help ensure that adequate flows are available to aquatic life at the proper time and thermal regime.

• Methodology: Conduct a flow study to determine stream morphology downstream of the project at various flows. Including width, depth and wetted perimeter and substrate composition. The study should identify any wetlands that are flooded. This should include available aquatic habitat under current operation through flood flow conditions. Quantitative Habitat Assessment Methodology should be used to document habitat conditions. Refer to existing management efforts (recreational, resource, habitat) to investigate the impacts the proposed project would have.

• Level of Effort and Costs: 40 hours of fieldwork and 40 hours of report writing at $125 per hour, plus equipment costs.

ASSESSMENT OF WATER QUALITY AT GILE FLOWAGE

• Goals & Objectives: Assess and monitor the following water quality parameters:

Total Phosphorus	Color	Ammonia
Chlorophyll-a	Total Nitrogen	Chloride
Dissolved Oxygen (DO)	Sulfate, Total Mercury	Bacteria
Temperature	Methyl Mercury	Cyanobacteria
Conductivity	Iron, Manganese, and/or Sulfide	Total Suspended Solids
pH	Dissolved Phosphorus	Sediment Accumulation
Secchi Depth	Nitrate (plus nitrite)	

• Relevant DNR Management Goals:

Total Phosphorus: One of the primary causes of eutrophication and most widespread pollutant in waterbodies statewide and nationally. Impoundments are unlikely to raise the concentration of phosphorus in the downstream river but play a role in the transformation, such as the ratio of dissolved phosphorus to total phosphorus.

Chlorophyll-a: A measurement of the amount of algae in a waterbody, one of the primary manifestations of eutrophication. As impoundments increase surface area, slow and warm water are likely to produce more chlorophyll-a, per unit phosphorus/nitrogen, than the upstream or downstream river. Impoundments may produce chlorophyll-a in the lake environment that is then passed to the downstream river.

Dissolved Oxygen: Dissolved oxygen is critical for the health and survival of aquatic organisms. Deep impoundments may stratify and become oxygen depleted in deep water. Impoundments may then cause a decrease in dissolved oxygen in the downstream river, especially if there is bottom withdrawal of a eutrophic impoundment, or an impoundment that stratifies. Additionally, eutrophic impoundments may transform nutrients into organic matter (mainly algae) that then flows into the river, decomposes and reduces oxygen.

Temperature: Temperature regime of a waterbody structures community composition of fish, invertebrates, plants, etc. Temperature also effects rates of chemical reactions, ecosystem productivity and the ability for gasses to dissolve in water. Impoundments can increase water temperatures by slowing water velocity and increasing surface area to absorb solar radiation. Additionally, deep impoundments may cause deep water temperatures to decrease if there is stratification.

Conductivity: High concentrations of dissolved ions, measured as conductivity, can impair the osmoregulation of organisms with gills and other semipermeable membranes. Sources of elevated conductivity are likely from nonpoint and certain point source discharges, however, conductivity is important for classifying the impoundment and stream and is therefore needed as background information.

pH: pH can control the biologic availability, solubility and speciation of chemicals in water. Although wild rice does well in slightly acidic waters (pH 5.9 – 6.2), even moderately acidic water may irritate the gills of aquatic fish and insects or reduce the hatching success of fish eggs. Eutrophication increases swings in pH during the algal growth and die-off phases. Highly eutrophic impoundments may release high or low pH to the river downstream. In addition, fluctuating water levels can acidify the impoundment by exposing the waterbody bed to air and then flushing sulfate into the water when lake levels rise again or when it rains.

Secchi Depth: Secchi depth measures water clarity and is a general indicator of waterbody health. The impoundment could affect Secchi depth through its effects on eutrophication and suspended sediments.

Color: Color refers to how much colored organic matter is in the water, staining it brown. Water color is important for understanding the ecology of the waterbody. Highly stained waters reduce water clarity, and in turn, can affect algal and plant growth and even fish growth. The impoundment is unlikely to affect color, but color will be important for understanding the ecology of the impoundment.

Total Nitrogen: An oversupply of nitrogen is one of the primary causes of eutrophication. A lack of nitrogen limits wild rice development. Impoundments are unlikely to raise the concentration of nitrogen in the downstream river. Although some planktonic algae can fix atmospheric nitrogen, this amount is likely overwhelmed by the amount of nitrogen coming in from the watershed via tributary streams. Impoundments do play a role in the transformation, such as the ratio of dissolved inorganic nitrogen to organic nitrogen.

Sulfate, Total Mercury, Methyl Mercury: Sulfate can also be converted to toxic sulfide which affects the mitochondria of plants. When sulfate is high, sulfides are also usually high and therefore toxic to wild rice and other plants. This process has been demonstrated in formation of new reservoirs and in the

regulation of existing reservoirs. Impoundments can cause this process to happen. Water levels will need to be managed to prevent increased methyl mercury and high sulfate levels.

Iron, Manganese, and/or Sulfide in Reservoir: These are reducing substances that can have high concentrations in the hypolimnion of reservoirs under anoxic conditions. They use oxygen through their own chemical transformations and can decrease sulfide but can further increase oxygen demand. In addition, iron binds phosphorus under oxic conditions, but releases phosphorus under anoxic conditions. Therefore, reservoirs with high iron could be prone to internal phosphorus loading if they go anoxic in the hypolimnion.

Dissolved Phosphorus: An oversupply of phosphorus is one of the primary causes of eutrophication and most widespread pollutant in waterbodies, statewide and nationally. Low phosphorus levels limit wild rice seedling success and development. Impoundments are unlikely to raise the concentration of phosphorus in the downstream river, but play a role in the transformation, such as the ratio of dissolved phosphorus to total phosphorus.

Nitrate (plus nitrite): One of the bioavailable forms of nitrogen, a primary cause of eutrophication. Impoundments are unlikely to raise the concentration of nitrate in the downstream river. Although some planktonic algae can fix atmospheric nitrogen, this amount is likely overwhelmed by the amount of nitrate coming in from the watershed via tributary streams.

Ammonia: One of the bioavailable forms of nitrogen, a primary cause of eutrophication. Impoundments are unlikely to raise the concentration of ammonia in the downstream river.

Chloride: Chloride, at elevated levels is toxic to fish, invertebrates and amphibians. At lower levels, it can negatively affect diversity, productivity, and increase the density of water. Chloride is increasing statewide and nationally in waterbodies that have even small percentages of their watershed in urbanized land use. The impoundment is unlikely to transform or change chloride levels from the incoming tributaries (assuming long-term stable water levels). The major exception being if the shore is heavily developed and there are major applications of road salt or point sources with high chlorides.

Bacteria: Bacterial indicators, such as E. coli, are used to detect the presence of fecal contamination in waterbodies to protect recreational uses. Impoundments are unlikely to increase E. coli in downstream rivers, unless there is heavy recreation (campgrounds, beaches, non-sewered sanitation) on the impoundment.

Cyanobacteria: Harmful algal blooms are of concern for human health, recreation, and fish and aquatic life. High concentrations of chlorophyll-a are often correlated with high concentrations of cyanobacteria and cyanotoxins, but not in all cases. These indicators need to be measured independently for evaluation. As impoundments increase surface area, slow and warm water are likely to produce more chlorophyll-a per unit phosphorus/nitrogen, than the upstream or downstream river.

Total Suspended Solids (TSS): High concentrations of TSS can inhibit visibility for predators, damage gill structure of fishes, and lead to high rates of sedimentation in streams and alter benthic habitat. Impoundments are likely to lower TSS concentrations in the downstream river. In extreme cases where sediment build-up behind a dam structure is high, there may be some chance of increased concentrations of TSS.

• Existing Information: One permitted point-source municipal discharge from the city of Montreal sewer treatment plant is located 0.8 miles downstream of the Gile Flowage. Satellite water clarity has been measured annually 2010-2017. Metals were measured in 2011. Water quality parameters were collected in 2012 and 2017-2019. Fish contaminant monitoring conducted in 2013.

The Gile Flowage is an Area of Special Natural Resources Interest (ASNRI) for Wild Rice, Outstanding and Exceptional Area, and a Priority Navigable Waterway (PNW) Musky and Walleye Area.

• Operation nexus to resource and how informs license: The overall goal of the request is to further understand the current water quality conditions of the flowage and riverine resources which will help inform management decisions in the future. Ensure compliance of state water quality standards and how operations are meeting those standards.

• Methodology: The WDNR classifies the Gile Flowage as a reservoir, where the water residence time is greater than 14 days. According to current WDNR information, the upper confidence limit for water residence time for Gile Flowage is 410 days. This means that lake monitoring protocols should be applied.

Data should be collected or analyzed using the DNR WISCALM Guidance and surface water grab sampling protocol. A list of standard operating procedures can be found in the appendix of the most current WDNR Wisconsin Consolidated Assessment and Listing Methodology (WisCALM, https://dnr.wisconsin.gov/topic/SurfaceWater/WisCALM.html), in addition to protocols listed in the table below:

LAKES	Method	Frequency – Annually	Recommended Method
Total Phosphorus (TP)	Field fixed, persulfate digestion	Spring turnover + 3x July 15 - Sep 15 **4 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Chlorophyll *a*	Water filtered in facility's lab or mail to WI State Lab of Hygiene	3x July 15 - Sep 15 **3 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Dissolved oxygen (DO)	Field, Profile at 1 m intervals	Spring turnover + 3x July 15 - Sep 15 **4 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Temperature	Field, Profile at 1 m intervals	Spring turnover + 3x July 15 - Sep 15 **4 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Conductivity & pH – field (optional)	Profile at 1 m intervals	Spring turnover + 3x July 15 - Sep 15 **4 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Conductivity, pH, Alkalinity – lab	Field collected, then sent to lab	1x during July 15 - Sep 15 **1 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Clarity (Secchi)	Field	Spring turnover + 3x July 15 - Sep 15 **4 total**	Wisconsin Citizen Lake Monitoring Training Manual (Secchi Disc Procedures)
Color	Field collected, then sent to lab	1x during July 15 - Sep 15 **1 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Total Nitrogen	Field fixed (sulfuric acid)	1x during July 15 - Sep 15 **1 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Macrophytes	Aquatic Plant Point-Intercept survey	1x – early July – mid-August **1 total**	https://www.uwsp.edu/cnr-ap/UWEXLakes/Documents/ecology/Aquatic%20Plants/PI-Protocol-2010.pdf

LAKES Continued	Method	Frequency – Annually	Recommended Method
Nitrate (plus nitrite)	Field fixed (sulfuric acid)	1x during July 15 - Sep 15 **1 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Sulfate, Total Mercury	Field collected, then sent to lab	Possibly 1x in spring	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Methyl Mercury	Fish tissue sample (6-8 panfish)	Possibly 1x in spring	Contact WDNR Fisheries for more information
Ammonia	Field collected, then sent to lab	Possibly 1x July 15 - Sep 15 **1 total**	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Iron, Manganese, and/or Sulfide	Field collected, then sent to lab	Possibly several times during the summer	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Dissolved Phosphorus	Field collected, then sent to lab	Possibly several times during the summer	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Total suspended solids (TSS)	Field collected, then sent to lab	Possibly several times during the summer	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Chloride	Field collected, then sent to lab	Possibly 1 sample a year in spring	Wisconsin Citizen Lake Monitoring Training Manual (Chemistry Procedures)
Bacteria	Field collected, then sent to lab	Dependent on system	Citizens Monitoring Bacteria: A training manual for monitoring *E. coli* http://dnr.wi.gov/lakes/forms/ecoli_may162005.pdf
Cyanobacteria/ Cyanotoxins	In development	TBD	In development, contact WDNR for more information

Wisconsin Citizen Lake Monitoring Network (CLMN) Training Manuals can be found on the CLMN Homepage through UW-Stevens Point, or found here: https://www.uwsp.edu/cnr-ap/UWEXLakes/Pages/programs/clmn/training.aspx

For the analytes without state standards, they should be analyzed by mean and median values and reported in a table by date and time annually.

Sediment accumulation should be assessed and mapped behind the dam. This includes estimated depth and volume of sediment held within the impoundment.

Lake monitoring methods should be performed in at least three locations within the project area (or best appropriate location), including one location downstream of the dam, one location within the impounded area (within the deep area of the impoundment, typically near the dam), and one location upstream of the impounded area.

• Level of Effort and Costs: $125 per hour plus costs for equipment. Estimated 40 hours for report writing and chemical analysis.

FISH MOVEMENT STUDY AT GILE FLOWAGE

• Goals & Objectives: Better understand fish movement from above to below the Gile Flowage dam. The WDNR has assumed that fish are leaving the Gile Flowage, but does not have quantitative evidence or information on fish survival.

• Relevant DNR Management Goal: Understand the existing environment. The WDNR manages public water for recreational use, such as fishing, protection and management of species, and overall health of the fishery of the state.

• Existing Information: No information is available on fish movement.

• Operation nexus to resource and how informs license: Having current fish movement and survival information will help WDNR staff make informed management decisions regarding the fishery.

• Methodology: Place PIT Tags in stocked Muskies and natural juvenile Walleyes and install a pit tag reader below the Gile Dam to monitor escapement.

Level of Effort and Costs: Fieldwork and data reporting at $125 per hour, plus equipment costs

ASSESSMENT OF FISHERIES AT GILE FLOWAGE

• Goals & Objectives: Define the diversity and abundance of the fish community within the Gile Flowage Project.

• Relevant DNR Management Goal: Understand the existing environment. The WDNR manages public water for recreational use, such as fishing, protection and management of species, and overall health of the fishery of the state.

• Existing Information: The Gile Flowage is an Area of Special Natural Resources Interest (ASNRI) for Wild Rice, Outstanding and Exceptional Area, and a Priority Navigable Waterway (PNW) Musky and Walleye Area.

WDNR-conducted fish survey data is available within the Gile Flowage (2017 later-spring electrofishing survey for bass and panfish, early summer fyke-netting survey for panfish, fall electrofishing survey for gamefish recruitment) and downstream of the Gile on the Montreal River. The Gile impounded area has a 2005 Fishery

Management Plan, which should be evaluated with new information. The 2005 Fishery Management Plan can be found here: https://dnr.wisconsin.gov/sites/default/files/topic/Watersheds/gile.pdf

• Operation nexus to resource and how informs license: Having current fish survey information will help WDNR staff make informed management decisions regarding the fishery.

• Methodology:

Gile Flowage:

Early Spring Fyke Netting: Three to five fyke nets (front frame 4'x6'), set the week of ice out.

Early Spring Electroshocking: Maxi boom to survey the entire shoreline with two dippers, when water temps are between 45-55 degrees

Late Spring Electroshocking: Maxi boom to survey the entire shoreline with two dippers, when water temps are between 60 – 70 degrees.

Summer Fyke netting (June-early August): Three to five fyke nets (front frame 4'x6'), set when water temps are approaching 70 degrees.

Fall Electroshocking: Maxi boom to survey the entire shoreline with two dippers, when water temps are between 55-65 degrees

Downstream of Gile Flowage, Montreal River up to Saxon Falls Dam: Seasonal catch per unit effort (CPUE) survey in summer (Late June/Early July – September 15) for a half mile to quantify fish population relative abundance and summary report to document the species available to recreational fishers and general fish community composition.

• Level of Effort and Costs: Fieldwork and data reporting at $125 per hour, plus equipment costs

Gile Flowage:

Early Spring Fyke Netting: Nets would be checked for 3 - 5 days, approximately 2 - 4 hours a day to set, check, move and workup the fish.

Early Spring Electroshocking: Approximately 1-2 nights of electrofishing (depending on 2 or 4 boats), approximately 6 hours per boat/night, 8 2-mile stations.

Late Spring Electroshocking: Approximately 2-4 nights of electrofishing (depending on 1 or 2 boats), approximately 4 hours per night

Summer Fyke Netting: Approximately 2 to 4 hours a day to set, check, move and workup the fish. The nets would be deployed for 3 to 4 net nights , usually set on a Monday, checked daily and removed Thursday or Friday of that same week.

Fall Electroshocking: Approximately 2-4 nights of electrofishing (depending on 1 or 2 boats), approximately 4 hours per night, 4 stations

Downstream of Gile Flowage, Montreal River up to Saxon Falls Dam: One electrofishing pass to determine catch-per-unit-effort and fish community composition during summer in a single survey station for a half mile, approximately 1 week of fieldwork: 2 stations/day, total of 8 stations.

ASSESSMENT OF WILDLIFE AND WILDLIFE HABITAT AT GILE FLOWAGE

• Goals & Objectives: Document wildlife presence and diversity, habitat types, and general wildlife and vegetation abundance within the project area. The goal of this study is to evaluate the distribution and composition of vegetation, wildlife, and wildlife habitats, including wetlands, and the effects operations of those actions have on wildlife inhabiting those habitats.

The WDNR has also increased its focus on pollinator species, which includes the Yellow Bumble Bee (*Bombus fervidus*), Sandersoni Bumble Bee (*B. sandersoni*), Frigid Bumble Bee (*B. frigidus*), Indiscriminate Cuckoo Bumble Bee (*B. insularis)*, Fernald Cuckoo Bumble Bee (*B. flavidus*), Yellowbanded Bumble Bee (*B. terricola*), Rusty Patched Bumble Bee (*B. affinis)*, and Confusing Bumble Bee (*B. perplexus)*. This also includes solitary bees, such as *Macropis ciliata* and *Macropis nuda* species, which have declined in Wisconsin, as well as their cleptoparasite *Epeoloides pilosula* (very rare bee that was recently found in the Nicolet National Forest). These bumble bees are either Federally Endangered, Federal Species of Concern, or State Species of Concern, and their presence and habitats should be assessed during the wildlife and wildlife habitat assessments.

• Relevant DNR Management Goals: The WDNR has responsibility to manage wildlife, including listed species. This information will be beneficial to understanding the current environment, and potential needs for resource management associated with Gile Flowage.

• Existing Information: Information is limited. To our knowledge, the PAD does not include any field assessment or survey of wildlife habitat or use. Data is very limited on bumble bees within the project area.

• Operation nexus to resource and how informs license: The proposal of licensing Gile Flowage has the potential to have short term and long-term impacts on habitat and wildlife use of affected habitats. Proper management of the resource will help to minimize any adverse impacts associated with the removal, restoration, and licensing activities.

• Methodology: Using a qualified biologist or ecologist knowledgeable in local vegetation, identify, classify, and delineate on a map major vegetation cover types within project area. Existing aerial photography, on the ground surveys, or a combination of the two to identify and map the cover types may be used. The biologist/ecologist will record all wildlife present.

During the summer and fall (migration), ground-truth any remote-sensing mapping efforts, record all wildlife observed (directly or indirectly) and document any terrestrial invasive species detected during survey efforts. Describe each cover type by species composition, successional stage, and aerial extent (acreage) within the survey area, including invasive species. As an example, the methodology expressed in the following reference could be used: https://www.fs.fed.us/research/publications/gtr/gtr_wo89/gtr_wo89.pdf

Additionally, identify suitable habitat for the above listed bumble bee species.

• Level of Effort and Costs: 80 hours of desktop review, field work, and data summary at an estimated $125 per hour, plus equipment costs.

MACROINVERTEBRATE SURVEY AT GILE FLOWAGE

• Goals & Objectives: Assess the water quality using macroinvertebrate bio-indicators downstream of the flowage.

• Relevant DNR Management Goals: The WDNR is charged with managing the water quality of the waters of the state and meeting designated criteria under the Clean Water Act.

• Existing Information: Limited information exists on the macroinvertebrate community within the project area.

• Operation nexus to resource and how informs license: Macroinvertebrates are likely impacted by segmentation of the river, and impoundments can impact communities due to changing thermal and/or flow regimes. These bio-indicators are used to assess the health of the resource.

• Methodology: Collect a wadable macroinvertebrate sample downstream of the flowage using WDNR Guidelines for Collecting Macroinvertebrate Samples from Wadable Streams (2017). Data should be analyzed using the current WDNR WISCALM Guidance.

Wadable Streams Macroinvertebrate Sampling (2017)
http://dnr.wi.gov/water/wsSWIMSDocument.ashx?documentSeqNo=150708168

• Level of Effort and Costs: One day of field work with an estimated 20 hours of field and data analysis at $125 per hour equals $2,500. Lab analysis at state certified lab estimated to cost $1,000. Mobilization, travel, and equipment is estimated at $2,000.

AQUATIC AND TERRESTRIAL INVASIVE SPECIES SURVEY AT GILE FLOWAGE

• Goals & Objectives: Evaluate the presence/absence of invasive species listed in NR40, including habitat preferences within the flowage area.

• Relevant DNR Management Goal: Minimize the transport and establishment of existing invasive species and establish management practices to reduce new invasive species. Compliance with NR40.

• Existing Information: The WDNR Lakes and AIS Mapping Tool identified three invasive invertebrate species in the Gile Flowage: the prohibited spiny water flea (Bythotrephes cederstroemi), first identified in 2003, the restricted Chinese mystery snail (Cipangopaludina chinensis), first identified in 2004, and the restricted banded mystery snail (Viviparus georgianus), first identified in 2011. The WDNR developed a flier to assist in early detection of aquatic invasive species. Purple Loosetrife was also found in 2018.

The Iron County Land and Water Conservation Department noted the spiny water flea was identified in the West Fork of the Montreal River downstream of the Gile Flowage dam for the first time in 2018. WDNR also has documented movement of spiny water flea downstream of the impoundment in the West Fork of the Montreal River. The spiny water flea extent is still unknown; they disappeared from WDNR sampling by the next road crossing downstream after STH 77.

• Operation nexus to resource and how informs license: The project may influence invasive species that have the potential to directly or indirectly cause economic or environmental harm or harm to human health, including harm to native species, biodiversity, natural scenic beauty and natural ecosystem structure, function or sustainability; harm to the long−term genetic integrity of native species; harm to recreational, commercial, industrial and other uses of natural resources in the state; and harm to the safety or wellbeing of humans, including vulnerable or sensitive individuals. – per NR40.

• Methodology: Use WDNR Early Detection Early Response Protocols. Additional methodology may be needed for terrestrial species, and other methodologies such as point-intercept may be appropriate if combing this study with other studies. Detection protocols for spiny water flea do not need to be conducted, since their presence is known.

• Level of Effort and Costs: 40 hours of field work and reporting at $125 per hour equals $5,000. Mobilization, equipment, and supplies are estimated at $10,000.

AQUATIC PLANT SURVEY AT GILE FLOWAGE

• Goals & Objectives: The goal of the aquatic plant study is to provide baseline data on the condition of the aquatic plant community in the Gile Flowage. Water levels can influence aquatic vegetation.

• Relevant DNR Management Goals: The proposed aquatic plant study will provide baseline aquatic plant information to determine if management practices would be needed to enhance the existing aquatic plant community, and overall health of Gile Flowage as a bio indicator.

• Existing Information: Data is limited on aquatic plant survey data within the flowage area. Wild rice historically existed in the sub-impoundment north of Knight Rd. The 2019 removal of a failed water control structure likely altered the prevalence of wild rice.

• Operation nexus to resource and how informs license: The study results will provide baseline aquatic plant data. The data informs the WDNR of the effects on the surface water resource and would be used to formulate management options. Plant density and diversity of aquatic and native species are important for establishing varies management plans and protecting the resource.

• Methodology: The information collected from this study includes an assessment of the density and diversity of macrophytes, which includes frequencies of occurrence of different plant species, as well as estimates of species richness, abundance, and maximum depth of plant colonization. The aquatic invasive species study should be conducted according to WDNR's Recommended Baseline Monitoring of Aquatic Plants in Wisconsin.

• Level of Effort and Costs: 40 hours of fieldwork and 40 hours of reporting at $125 per hour, plus equipment costs.

MUSSEL STUDY AT GILE FLOWAGE

• Goals & Objectives: Determine the effects of barriers to mussel distribution and diversity within the Gile Flowage and Montreal River. Determine freshwater mussel density and diversity, including characterizing mussel habitat within the Gile Flowage. The study would provide information on freshwater mussel species present, their diversity, density, and a better understanding of baseline conditions and associated management needs for Gile Flowage.

• Relevant DNR Management Goals: This information will help the resource agencies determine if any best management practices are needed to protect listed species, as well as any management measures to protect or enhancement the existing freshwater mussel population.

• Existing Information: There is no recent information on freshwater mussel species in or near the project area. The PAD states that Cylindrical papershell and Eastern elliptio have been found within the Montreal River and its tributaries in Iron County, based on 1975 records from the Wisconsin Mussel Monitoring database. Recent surveys have not been conducted for mussels in this area.

• Operation nexus to resource and how informs license: The operations of the Gile Flowage Project could influence the freshwater mussel species located at the study area. The results of the survey will provide essential information to determine if any protection measures, restoration, or enhancements would be necessary as a management requirement associated with the Gile Flowage.

• Methodology: A qualitative and quantitative survey for freshwater mussels should be conducted within Gile Flowage and downstream of the dam structure, on the Montreal River. Some methods that can be used are WDNR's Guidelines for Sampling Freshwater Mussels in Wadable Streams and WDNR's Quantitative Habitat Assessment Methodology. Methodology should be discussed with the WDNR for quantitative surveys. A

Mussel Survey Plan should be submitted to the WDNR for review at least 2 weeks (1 month preferred) prior to implementation.

Mussel sampling should be conducted when water temperatures exceed 50°F to minimize thermal stress to the resource. This period will allow mussels disturbed during sampling to re-establish themselves into the substrate.

Qualitative timed searches should first be conducted to assess habitat suitability and presence of freshwater mussels. Sites will be located below each barrier within the study area, plus one site upstream of the Gile Flowage. Starting locations should be representative of available habitat within the sampling reach. As a minimum, timed searches will be 4 per/hrs or a total search distance of 200 m in riverine sections of the project area and up to 8 per/hrs within reservoirs.

Quantitative sampling using quadrat samples will be used to determine population density, community composition, age and total length distributions, living/dead and sex ratios. One quantitative site will be located on the Gile Flowage where mussel habitat is determined suitable and where past sampling has occurred. The sampling unit will consist of a 30m transect with 10 equally spaced 1/4m2 quadrats every three meters along the unit. Each transect extends perpendicular from shore. Up to 300 1/4 m2 quadrats are sampled, collecting all living bivalves and empty shells. Mussels are brought to the surface in a 3 mm mesh-sized bag where they are identified to species, aged, and shell measurements recorded. All live mussels are then returned along the same transect they were collected.

• Level of Effort and Cost: An estimate of 80 hours of field work and 40 hours to analyze data and draft a report at an estimated $125 per hour, plus equipment costs.

ASSESSMENT OF RIVERINE AND RESERVOIR HABITAT AT GILE FLOWAGE

• Goals & Objectives: Define, measure and assess the existing reservoir habitat conditions, including upstream and downstream of the flowage. Determine if degradation is occurring and if resources are affected.

• Relevant DNR Management Goals: Obtaining habitat assessment information is critical for current and future management actions and establishing baseline data. Water level fluctuations due to drawdowns often affect aquatic habitat; impacts of drawdowns on the resource should be assessed.

• Existing Information: Data is limited or not available.

• Operation nexus to resource and how informs license: Having updated habitat assessment information is critical for evaluating the effects of the project on the reservoir and downstream ecosystem. It will provide baseline data to current conditions and assist with management recommendations of any current or future needs. The data can be used to help guide water resource management associated with Gile Flowage.

• Methodology: The reservoir and riverine habitat should be evaluated with the WDNR Quantitative Habitat Assessment methodology within the flowage and in the wadable stretches of Montreal River at various flows or estimates. Additionally, for the reservoir, WDNR shoreland habitat protocol should be used. Please work with WDNR do determine which protocol should be used for different locations.

• Level of Effort and Costs: 40 hours of field work, and 40 hours of data analysis at $125 per hour, plus equipment costs.

WOOD TURTLE SURVEYS AT GILE FLOWAGE

• Goals & Objectives: Wood turtles are listed as Threatened in Wisconsin, and as Special Concern in Michigan. In an effort to better understand the abundance and distribution of this species, several survey and management efforts are taking place across northern Wisconsin within a number of different river systems. Presence/absence surveys, population modelling and natural nest site surveys are three examples of existing work that is being done across the range of this species in Wisconsin, which is primarily the northern one-third of the state. Through previous survey efforts, this species is known to occur within the Montreal River, however it is unknown whether surveys for, or casual observations of, this species have occurred within the Gile Flowage. The two main objectives of this study request are to determine if wood turtles are present within the project boundaries of the flowage and to determine whether any wood turtle nest sites occur within the project boundary.

• Relevant DNR Management Goals: The WDNR has responsibility to manage wildlife, which includes the wood turtle. This survey study will be beneficial to understanding the current environment and potential needs for resource management associated within the Gile Flowage. Two of the main threats to wood turtles across their range are: 1. Adult mortality due to vehicle collisions 2. Predation of eggs and hatchlings at nest sites, resulting in poor recruitment in many river systems. Wood turtles are particularly susceptible to nest predation due to their tendency to nest colonially and nest in the same location every year, providing a pattern that is recognizable by nest predators, such as raccoon and fox. In an effort to improve recruitment, the WDNR has employed several strategies to protect existing nest sites and create protected artificial nest sites. If any natural nest sites are found within the current or proposed project boundaries, the WDNR will work with the licensee to protect these nest sites from predation as well as from negative human-related impacts.

• Existing Information: Information is limited within the Gile Flowage. To our knowledge, the PAD does not include any field assessment or survey of wildlife habitat or use. Wood turtle surveys have taken place along the Montreal River in Wisconsin, but to the best of our knowledge, this work has been largely limited to areas upstream of US Hwy 2. It is unknown what survey work has been completed on the Michigan side.

• Operation nexus to resource and how informs license: The licensing of Gile Flowage has the potential to have short term and long-term impacts on wood turtles and habitat use. Proper management of the resources will help to minimize any adverse impacts associated with the restoration and relicensing activities. Examples of possible impacts to wood turtles are related to seasonal water level fluctuations during vulnerable life history stages, both upstream and downstream. If nest sites are present downstream of these dams, increasing downstream water levels during the period following egg laying in June until hatchling emergence in August/September could cause nest failure if nests become submerged for extended periods of time. Depending on timing, winter drawdowns could have impacts on wood turtles upstream of the dam if the water level is lowered to a point where overwintering turtles are exposed to the elements due to low water levels where they are hibernating.

• Methodology: Using a qualified biologist or ecologist, two survey protocols are requested: (1) Presence/absence surveys for wood turtles and (2) Wood turtle nesting site surveys.

1. Presence/absence surveys for wood turtles: Surveys for wood turtles are most effective during spring and early summer, when this species emerges from hibernation and begins breeding activity in terrestrial settings but relatively close to riverbanks. Beginning after ice out, surveys should be conducted on sunny days when the air temperature is 50 – 80 degrees Fahrenheit. Depending on the year, local snow/ice conditions and weather, these surveys can typically be conducted from late April – early June. The survey consists of visual searches within approximately 50 feet of the river's edge, where wood turtles can be found basking on days that meet the abovementioned weather criteria. The frequency of

these surveys will be dependent on weather conditions, but ideally at least two times per week on non-consecutive days during this timeframe.

2. Wood turtle nesting site surveys: Beginning in early to mid-June, and extending until approximately the first week in July, wood turtle nesting activity can be surveyed by conducting daily searches for adult wood turtles and/or evidence of recent nesting activity in suitable nesting habitat. Suitable nesting habitat includes a sand or sand/gravel substrate that is either unvegetated or sparsely vegetated, receives sun exposure for most of the day during late spring/summer and is within approximately 200 feet of the river's edge. Note that this can include gravel parking areas, roads or shoulders of paved roads. Many portions of the project boundaries can likely be eliminated from these nesting surveys due to a lack of suitable conditions for turtle nesting.

• Level of Effort and Costs: 40-60 hours at $125 per hour, plus equipment costs.

1. Presence/absence surveys for wood turtles, Spring, 2021: Two surveys per week for four weeks (assume 2 hours per survey). These surveys should focus on free-flowing river stretches and the vicinity of each dam.
2. Wood turtle nesting site surveys, Summer 2021: Assess nest site suitability within the project boundary, focusing on free-flowing river stretches. Desktop review followed by ground truthing.
3. Wood turtle nesting site surveys, Spring/Summer, 2021: Daily surveys of suitable nesting sites (if any are found) for four weeks (Assume 1 hour per survey).

ASSESSMENT OF RECREATION AT GILE FLOWAGE

• Goals & Objectives: Evaluate current recreational uses, including opportunities for low flow and high flow events, public access, natural scenic beauty, trails, water sports, and fishing, with consideration for the different seasonal uses.

• Relevant DNR Management Goals: The WDNR supports a wide array of recreational use. We support the need for recreational use surveys that consider a broad array of users. A quantitative recreational use survey completed within the proposed project boundary will evaluate potential changes associated with any modifications to water levels and operations. Information needs to be gathered in order to understand the current use, and potential future uses.

• Existing Information: There are many opportunities for fishing, wildlife viewing, and water sports within the Gile Flowage vicinity, which includes multiple boat landings and a park. WDNR regional managers have indicated that program staff have needed to consistently move the location of the state boat landing throughout the summer due to fluctuating water levels. Additionally, program staff have expressed that the boat ramp at the state boat landing and the floating docks do not extend far enough into the water during low flowage levels.

• Operation nexus to resource and how informs license: Hydro operations, management of impoundments, water level changes, and sufficient public access can have a significant impact on recreational value. Adequate information is necessary to determine what impacts may be occurring from the hydro operations, and what recreational opportunities may be enhanced.

• Methodology: Desktop assessment, including review of the State of Wisconsin 2019 to 2023 Statewide Comprehensive Outdoor Recreation Plan (SCORP), released in March 2019, public surveys, and existing recreational sites. This includes assessment of current uses, level of use, evaluation for additional recreational features.

• Level of Effort and Cost: 40 hours of desktop review and fieldwork at $125 per hour.

ASSESSING THE MONTREAL RIVER FOR THE CUMULATIVE IMPACT OF ALL THREE HYDROELECTRIC PROJECTS

• Goals & Objectives: Holistic approach to water levels, drawdowns, aquatic resources of the overall water system.

• Relevant DNR Management Goals: The relationships of the three dams working collectively need to be assessed from a holistic and comprehensive manner for resource impacts.

• Existing Information: The Montreal River flows southwesterly for about 3.8 miles from the unnamed body of water until it enters Pine Lake at the southeast shoreline. The Montreal River then flows northerly for another 9.5 miles, at which point it begins to flow northwesterly for an additional 40.2 miles along the Wisconsin and Michigan border while passing through the Saxon Falls Project and Superior Falls Project, until it reaches Oronto Bay in Lake Superior.

The West Fork of the Montreal River is about 26.1 miles in length and originates from Island Lake in Pence Township, Wisconsin. The West Fork of the Montreal River flows north and east for 13.8 miles until it enters the southern end of Gile Flowage. From there, the West Fork of the Montreal River continues northeast for an additional 12.3 miles until it meets the Montreal River, at which point the Montreal River continues to flow another 17.7 miles before it reaches Oronto Bay.

• Operation nexus to resource and how informs license: Comprehensive assessment of how the three dams work independently and together, as well as the assessment of the impacts to the environment. These studies will provide information for management planning for current and future needs.

• Methodology: The project studies should be designed to characterize the Montreal River and reservoir systems. This includes an operations and flow study that assesses how each project functions independently and together. Reference the in-stream flow study requests for each facility and create a comprehensive flow study that incorporates Gile Flowage, Saxon Falls, Superior Falls, and the Montreal River as a continuum.

• Level of Effort and Cost: Estimated 40-60 hours of desktop analysis.