



# Proposed Study Plan

**Gile Flowage Storage Project**  
FERC Project No. 15055-000

Montreal River, Iron County, Wisconsin

Submitted by



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## List of Abbreviations

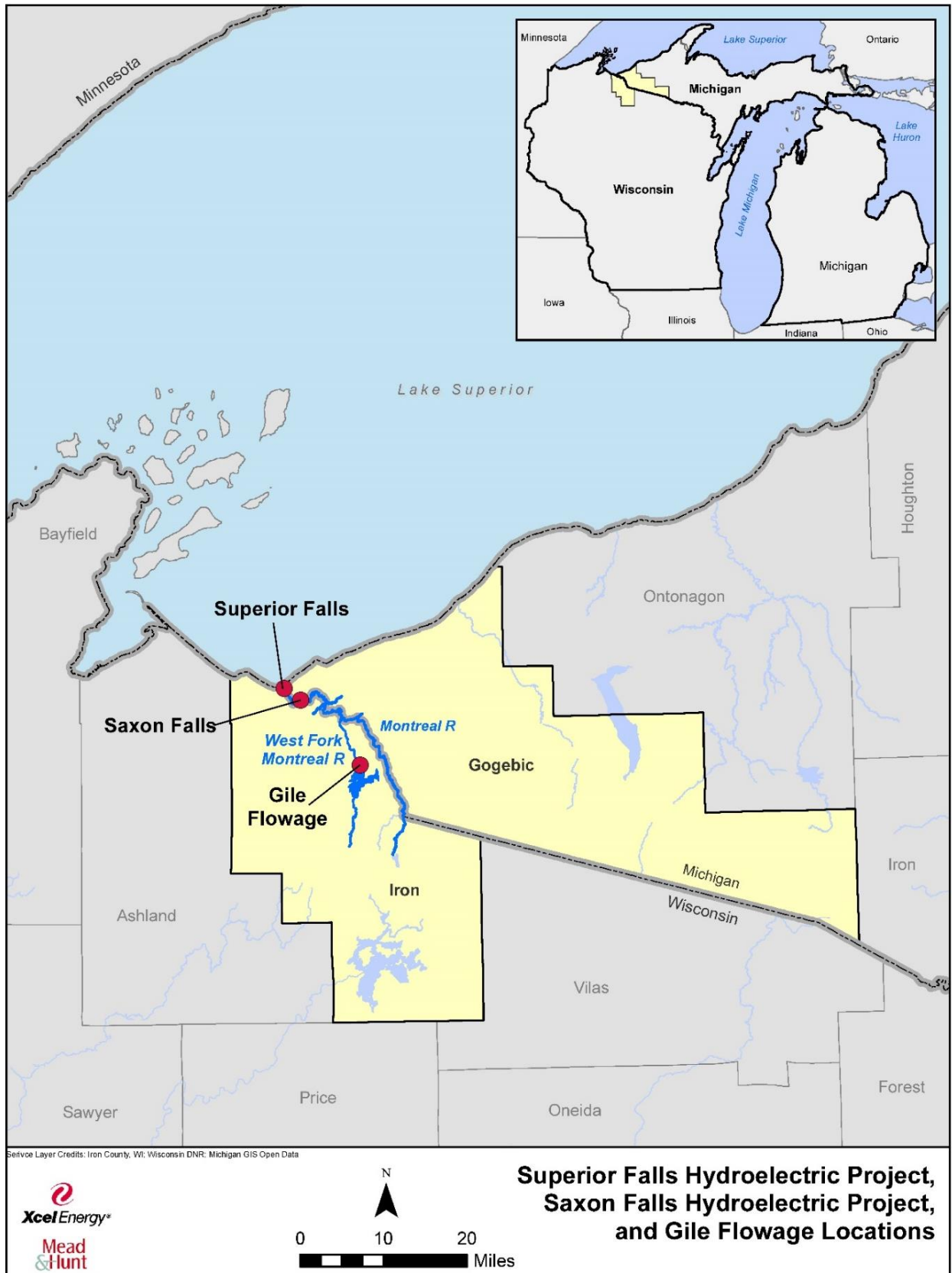
AIR	Additional Information Request
Applicant	Northern States Power Company – Wisconsin, d/b/a Xcel Energy
APE	Area of Potential Effect
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
Commission	Federal Energy Regulatory Commission
Dam	Gile Flowage dam
DLA	Draft License Application
DO	Dissolved oxygen
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
FOG	Friends of the Gile Flowage
ILP	Integrated Licensing Process
IPaC	Information for Planning and Consultation
ISR	Initial Study Report
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NHI	National Heritage Inventory
NLEB	Northern long-eared bat
No.	Number
NOI	Notice of Intent
NGO	Non-governmental Organization
NPS	National Park Service
NR 40	Chapter NR 40 of the Wisconsin Administrative Code
NRHP	National Register of Historic Places
NSPW	Northern States Power Company – Wisconsin d/b/a Xcel Energy
PAD	Preliminary Application Document
PLP	Preliminary Licensing Proposal
PM&E Measures	Protection, Mitigation, and Enhancement Measures
Project	Gile Flowage Storage Reservoir Project
PSP	Proposed Study Plan
RAW	River Alliance of Wisconsin
RSP	Revised Study Plan
§	Section
SD1	Scoping Document 1
SD2	Scoping Document 2
SHPO	Wisconsin Historical Society State Historic Preservation Office
SWF	Spiny Water Flea
USC	United States Code
USR	Updated Study Report
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDNR	Wisconsin Department of Natural Resources
WHPD	Wisconsin Historic Preservation Database

## 1. Introduction

Northern States Power Company-Wisconsin (NSPW or Applicant), d/b/a Xcel Energy, owns and operates the Gile Flowage Storage Project (Gile Flowage or Project). The Project is located on the West Fork of the Montreal River (West Fork) in Iron County, Wisconsin and currently operates under a permit issued by the Public Service Commission of Wisconsin (PSCW). The purpose of the Project is to augment flow in the West Fork during low flow periods for hydroelectric generation at NSPW's two downstream projects, the Saxon Falls Hydroelectric Project (Saxon Falls) and the Superior Falls Hydroelectric Project (Superior Falls). Both projects are licensed by the Federal Energy Regulatory Commission (FERC or Commission). The Commission issued an order on August 19, 2020, determining that the Gile Flowage Storage Project is required to be licensed as it provides a significant contribution to generation for both downstream projects.

The Project is located within the towns of Pence and Carey, Iron County, Wisconsin approximately 2.5 miles southwest of the neighboring cities of Hurley, Wisconsin and Ironwood, Michigan and approximately 33 miles southeast of the City of Ashland, Wisconsin. The Applicant is not currently proposing any changes to the operations of the Project as part of licensing.

Figure 1-1: Locations along the Montreal River in Wisconsin and Michigan





## 1.1 Study Plan Overview

The Applicant filed a Pre-Application Document (PAD), Notice of Intent (NOI) and request to use the Traditional Licensing Process (TLP) to seek an original license for the Gile Flowage Storage Project on November 17, 2020. The PAD provides a complete description of the Gile Flowage Storage Project, including its structures, operations, and potential effect on environmental and cultural resources.

The Applicant distributed the PAD and NOI simultaneously to federal and state resource agencies, local governments, Native American tribes, members of the public, and others thought to be interested in the licensing proceeding.

The National Environmental Policy Act of 1969 (NEPA), FERC regulations, and other applicable statutes require FERC to independently evaluate the environmental effects of issuing an original license for the Project, and to consider reasonable alternatives to licensing. Following the filing of the PAD, FERC prepared and issued Scoping Document 1 (SD1) on January 19, 2021. SD1 was intended to advise resource agencies, Indian Tribes, NGOs, and other stakeholders as to the proposed scope of the NEPA document and to seek additional information pertinent to FERC's analysis. As provided in 18 CFR §5.8(a) and §5.8(b), FERC issued a notice of commencement of the licensing proceeding associated with SD1. Due to concerns with large gatherings regarding COVID-19, FERC waived the requirement to conduct a public scoping meeting and site visit. FERC provided agencies and interested parties an opportunity to file written comments, recommendations, and information on the PAD and SD1 and request studies by March 17, 2021.

FERC issued a letter on January 19, 2021 denying NSPW's request to use the TLP and stating that the ILP must be used. FERC's ILP regulations require that stakeholders who provide study requests include specific information in the request in order to allow the Applicant, as well as FERC staff, to determine a requested study's appropriateness and relevancy to the Project and proposed action. As described in 18 CFR §5.9 of FERC's ILP regulations, the required information to be included in a study request is as follows:

1. Describe the goals and objectives of each study proposal and the information to be obtained;
2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;
4. Describe existing information concerning the subject of the study proposal, and the need for additional information;
5. Explain any nexus between Project operation 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;
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; and
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.

During the comment period, a total of 8 stakeholders, including the FERC, provided comments and study requests. These comments and study requests are discussed in Section 3 of this document with the corresponding letters included in Appendix A. Additionally, FERC filed additional information requests (AIRs) which are addressed in Section 6 of this document. The ILP requires the Applicant to file this PSP within 45 days from the close of the March 17, 2021 comment period (i.e., on or before May 1, 2021).

The purpose of this PSP is to present the studies that are being proposed by the Applicant and to address the comments and study requests submitted by resource agencies and other stakeholders. This PSP also provides FERC, regulatory agencies, Indian Tribes, and other stakeholders with the methodology and detail of the Applicant's proposed studies. After the comment period closes, the Applicant will prepare a Revised Study Plan (RSP), as necessary, that will address interested parties' comments to the extent practicable. Pursuant to the ILP, the Applicant will file the RSP with FERC on or before August 29, 2021 and the FERC will issue a Study Plan Determination by September 28, 2021.

## 1.2 Applicant's Proposed Study Plan

NSPW evaluated all study requests submitted by the stakeholders, with a focus on those that specifically addressed the seven criteria set forth in § 5.9(b) of the FERC's ILP regulations, as discussed in Section 1.1 above. For the study requests that did not address the seven study criteria, NSPW, where appropriate, considered the study in the context of providing the requested information in conjunction with one of NSPW's proposed studies. Section 3 of this PSP discusses the comments and study requests submitted by the stakeholders.

Based on the Applicant's review of the requested studies, FERC criteria for study requests under the ILP and other available information, the Applicant is proposing nine studies for the Project to be performed in support of issuing an original license for the Project. The proposed studies are as follows:

- Aquatic and Terrestrial Invasive Species Study
- Cultural Resources Study
- Minimum Flow Habitat Evaluation Study
- Mussel Study
- Recreation Study
- Shoreline Stabilization Study
- Water Quality Study
- Whitewater Recreation Flow Study
- Wood Turtle Study

These nine study plans are attached as Appendices B through J. Each study plan describes the following:

- The goals and objectives of the study;
- The defined study area;
- A summary of background and existing information pertaining to the study;
- The nexus between Project operations and potential effects on the resources to be studied;
- The proposed study methodology;
- The level of effort, cost, and schedules for conducting the study; and
- Discussion of alternative approaches.

### **1.2.1 Comments on the Proposed Study Plan**

Comments on this PSP, including any additional or revised study requests, must be filed within 90 days of the filing date of this PSP (i.e., no later than July 30, 2021).

### **1.2.2 Proposed Study Plan Meeting**

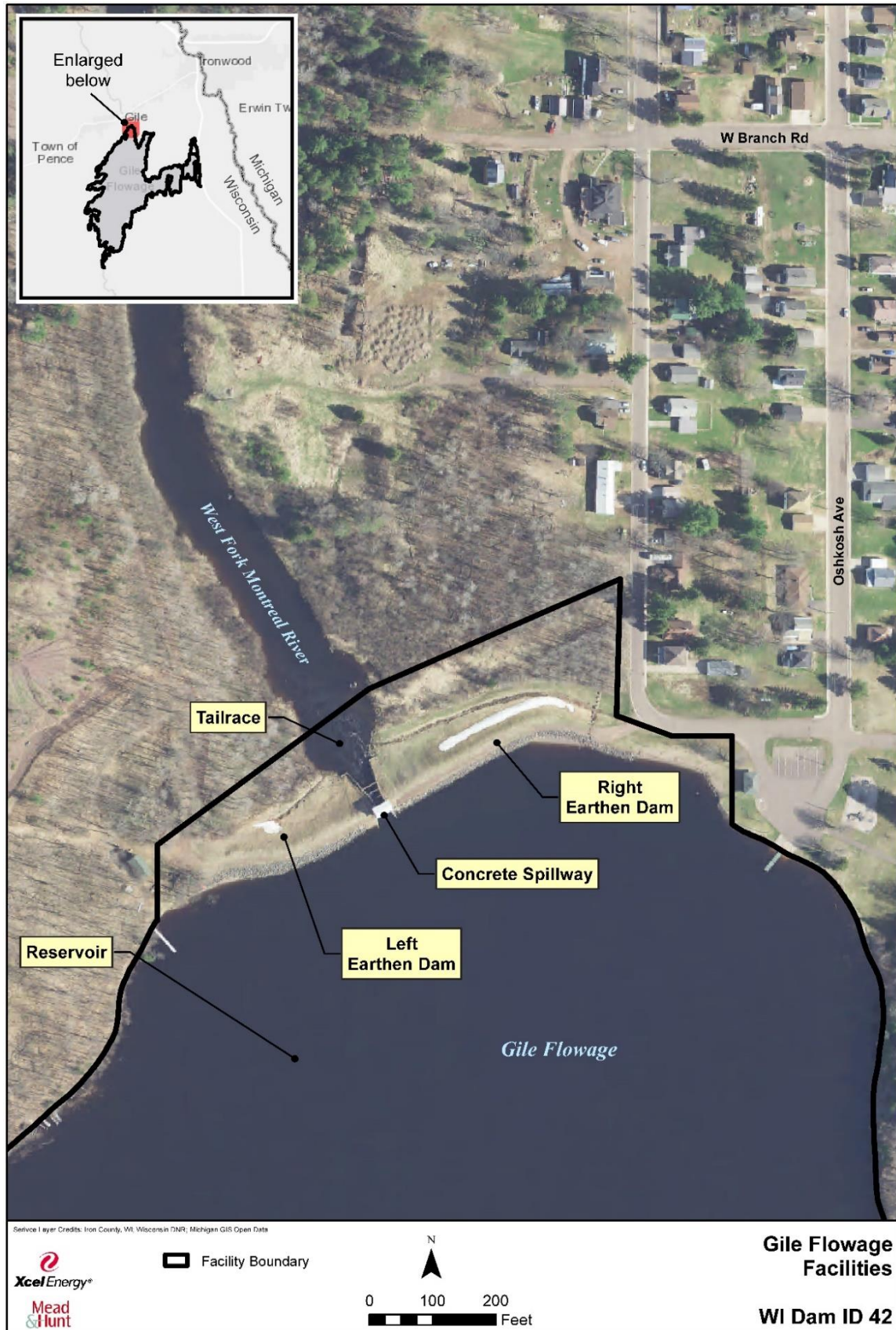
In accordance with 18 CFR § 5.11(e), the Applicant plans to hold a PSP meeting on May 20, 2021. Due to ongoing COVID-related concerns with travel and gathering in groups, this will be a virtual meeting. The purpose of the meeting will be to clarify the intent and contents of the PSP, explain information-gathering needs, and resolve outstanding issues associated with the proposed studies. Additional details regarding the meeting are presented in Section 5 of this document.

## **1.3 Project Description and Location**

The Gile Flowage Storage Project is a headwater storage reservoir located on the West Fork in the towns of Carey and Pence in Iron County, Wisconsin. The Project consists of (1) a 3,317-acre reservoir with a usable storage capacity of 37,064 acre-feet at a water surface elevation of 1,490.0 feet NGVD; (2) a 30 foot-high by 899 foot-long dam consisting of, from west to east: (a) a 300 foot-long, 30 foot-high earthen embankment with a crest elevation of 1,495 feet NGVD; (b) a 24 foot-long, 30 foot-high concrete spillway section with a crest elevation of 1,495 feet NGVD, a 6 foot-wide, 6 foot-high sluice gate with an invert elevation of 1,465.5 feet NGVD, and a 16 foot-wide by 12 foot-high Tainter gate with a crest elevation of 1,478 feet NGVD; and (c) a 575 foot-long, 30 foot-high earthen embankment with a crest elevation of 1,495 feet NGVD; and (3) appurtenant facilities. The Project does not feature any generating facilities.

The Project is operated to augment flows in the Montreal River during summer and winter low-flow periods for hydroelectric power generation at the downstream Saxon Falls (P-2610) and Superior Falls (P-2587) Projects. The Project has a maximum drawdown of 15 feet, but typically operates with a summer drawdown that averages 5.2 feet and a winter drawdown that averages 6.8 feet. Existing Project facilities are shown in Figure 1.3-1.

Figure 1.3-1: Project Facilities



## 2. Execution of the Study Plan

As required by Section 5.15 of FERC’s ILP regulations, the Applicant must file an Initial Study Report (ISR), hold a meeting with stakeholders and FERC staff to discuss the initial study results (ISR Meeting), prepare and file an Updated Study Report (USR), and convene an associated USR Meeting, if required. All study documents which require filing with the Commission will be submitted by the Applicant via FERC’s e-Filing system.

### 2.1 Process Plan and Schedule

The Process Plan and Schedule is presented in Table 2.1-1. Gray shaded milestones are unnecessary if there are no formal study disputes. If the due date falls on a weekend or holiday, the due date is the following business day. Early filings or issuances will not result in changes to these deadlines.

Table 2.1-1: ILP Process Plan and Schedule

Responsible Party	Pre-filing Milestone	Date <sup>1</sup>	FERC Regulation
Applicant	Issue Public Notice for NOI/PAD	11/17/2020	5.3(d)(2)
Applicant	File NOI/PAD with FERC	11/17/2020	5.5, 5.6
FERC	Tribal Meetings	17/17/2020	5.7
FERC	Issue Notice of Commencement of Proceeding; Issue SD1	1/16/2021	5.8
FERC	Environmental Site Review and Scoping Meeting	Waived	5.8(b)(vii)
All Stakeholders	PAD/SD1 Comments and Study Requests Due	3/17/2021	5.9
FERC	Issue Scoping Document 2	5/1/2021	5.10
Applicant	File PSP	5/1/2021	5.11(a)
All Stakeholders	PSP Meeting	5/31/2021	5.11(e)
All Stakeholders	PSP Comments Due	7/30/2021	5.12
Applicant	File RSP	8/29/2021	5.13(a)
All Stakeholders	RSP Comments Due	9/13/2021	5.13(b)
FERC	Director’s Study Plan Determination	9/28/2021	5.13(c)
Mandatory Conditioning Agencies	Any Study Disputes Due	10/18/2021	5.14(a)
Dispute Panel	Third Dispute Panel Member Selected	11/2/2021	5.14(d)
Dispute Panel	Dispute Resolution Panel Convenes	11/7/2021	5.14 (d)(3)

<sup>1</sup> Documents or meetings are due no later than the indicated date. If the due date falls on a weekend or holiday, the deadline is the following business day.

<b>Responsible Party</b>	<b>Pre-filing Milestone</b>	<b>Date<sup>1</sup></b>	<b>FERC Regulation</b>
Applicant	Applicant Comments on Study Disputes Due	11/12/2021	5.14(j)
Dispute Panel	Dispute Resolution Panel Technical Conference	11/17/2021	5.14(j)
Dispute Panel	Dispute Resolution Panel Findings Issued	12/7/2021	5.14(k)
FERC	Director's Study Dispute Determination	12/27/2021	5.14(l)
Applicant	First Study Season	2022	5.15(a)
Applicant	File ISR	9/28/2022	5.15(c)(1)
All Stakeholders	ISR Meeting	10/13/2022	5.15(c)(2)
Applicant	ISR Meeting Summary	10/28/2022	5.15(c)(3)
All Stakeholders	Any Disputes/Requests to Amend Study Plan Due	11/27/2022	5.15(c)(4)
All Stakeholders	Responses to Disputes/Amendment Requests Due	12/27/2022	5.15(c)(5)
FERC	Director's Determination on Disputes/Amendments	1/26/2023	5.15(c)(6)
Applicant	Second Study Season	2023	5.15(a)
Applicant	USR Due	9/28/2023	5.15(f)
All Stakeholders	USR Meeting	10/13/2023	5.15(f)
Applicant	USR Meeting Summary	10/28/2023	5.15(f)
All Stakeholders	Any Disputes/Requests to Amend Study Plan Due	11/27/2023	5.15(f)
All Stakeholders	Responses to Disputes/Amendment Requests Due	12/27/2023	5.15(f)
FERC	Director's Determination on Disputes/Amendments	1/26/2024	5.15(f)
Applicant	File Preliminary Licensing Proposal (PLP) or Draft License Application (DLA)	3/21/2023	5.16(a)
All Stakeholders	PLP/DLA Comments Due	6/19/2023	5.16(e)
Applicant	File Final License Application	8/18/2023	5.17
FERC	Issue Public Notice of License Application Filing	9/1/2023	5.17(d)(2)



### **3. Responses to FERC's Project Location, Facilities, and Operation (18 CFR § 5.6(d)(2))**

Stakeholder comments on the PAD and SD,1 as well as study requests, were due March 17, 2021. Eight letters were filed on the Project docket in response to the Applicant's filing of the NOI and PAD and FERC's SD1:

- FERC letter dated March 17, 2021, providing comments on preliminary study plans, requests for studies, and additional information.
- American Whitewater (AW) letter dated March 17, 2021, providing comments on the PAD and study requests.
- Friends of the Gile Flowage (FOG) letter dated March 16, 2021, providing study requests.
- Michigan Hydro Relicensing Coalition (MHRC) letter dated March 17, 2021, providing comments on the PAD and SD1.
- National Park Service (NPS) letter dated March 16, 2021, providing comments on the PAD and requesting studies.
- River Alliance of Wisconsin (RAW) letter dated March 17, 2021, providing comments on the PAD and requesting studies.
- U.S. Environmental Protection Agency (EPA) letter dated March 16, 2021, providing comments on SD1.
- Wisconsin Department of Natural Resources (WDNR) letter dated March 5, 2021, providing comments on SD1 and the PAD and requesting studies.

The AW, FERC, FOG, NPS, RAW, and WDNR letters are discussed below. The MHRC letter is not discussed as it only provided support for other stakeholders' study requests. The EPA letter is not discussed as the comments were directed to the Commission regarding FERC's NEPA analysis.

#### **3.1 FERC Letter Dated March 17, 2021**

FERC filed comments on the preliminary study plans and study requests, and requested additional information, via letter dated March 17, 2021. This section documents the Applicant's responses to the study requests (Schedule A of FERC's letter) and responses to comments on preliminary study plans (Schedule B of FERC's letter). Section 6 of this PSP addresses FERC's additional information requests (AIRs) (Schedule C of FERC's letter).

##### **3.1.1 Shoreline Stability Study**

FERC requested a Shoreline Stability Study to gather additional information to address the potential effects of project operation on shoreline erosion in the reservoir and downstream of the Gile Dam. FERC stated the objectives of the study are to identify areas of erosion, mass soil movement, slumping, or other forms of instability of the shoreline of the Project reservoir and the river downstream of the dam. The Applicant acknowledges this request and has developed the Shoreline Stability Study located in Appendix G.

### **3.1.2 Recreation Use and Facility Inventory Study**

FERC requested a Recreation Use and Facility Inventory Study 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. FERC stated the objectives of the study are to identify the condition of all formal and informal recreation sites and facilities within and adjacent to the proposed Project boundary, including any erosion due to recreational use; determine the current and projected capacity at each recreation site; identify who owns, operates, and maintains each recreation site; describe each recreation site and or facility in relation to the proposed Project boundary; and conduct visitor surveys during the recreation season to determine the adequacy of existing facilities and if changes or upgrades to the sites would be needed to meet current and future recreation needs. The Applicant acknowledges this request and has incorporated FERC's request into the proposed Recreation Study located in Appendix F.

### **3.1.3 Cultural Resources Study**

The Applicant acknowledges FERC's comments on the Cultural Resources Study and has generally incorporated these comments into the proposed Cultural Resources Study located in Appendix C. The Applicant did, however, make changes to the methodology provided by the Commission where there were differences between the Commission's recommendations and the requirements of the *Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, the State of Wisconsin, State Historic Preservation Officer and the State of Michigan, State Historic Preservation Officer, for Managing Historic Properties that may be Affected By New and Amended Licenses Issuing for the Continued Operation of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan (PA)*, executed in December 1993 (ACHP, 1993). Although the PA does not apply to an original licensing proceeding, it is considered generally accepted scientific practice and should be followed for this original license process.

## **3.2 American Whitewater Letter Dated March 17, 2021**

AW filed comments and a study request with FERC on March 17, 2021. The study request loosely followed the required information to be included in a study request as outlined in 18 CFR §5.9 of FERC's ILP regulations. A discussion of AW's study request is included in the following section.

### **3.2.1 Recreation Flow Study**

AW requested that a controlled flow study, including an evaluation of at least three different flows between 400 cubic feet per second (cfs) and 1,000 cfs, be conducted to determine an optimal flow for whitewater boating on the reach of river spanning from the Gile Dam to the US Highway 2 Bridge. AW also requested that public access to the river be evaluated.

Although AW did not provide a clear methodology, the Applicant acknowledges this study request and has developed a methodology consistent with generally accepted scientific practice. More specifically, the Applicant proposes to conduct an evaluation of up to three recreational flows of 4 hours each, between 600 and 1,000 cfs. Actual flows to be released will be determined after on-site consultation with the study participants. The location of the US Highway 2 / West Fork Montreal River crossing is privately owned on both sides of the road according to current tax parcel records. Therefore, the study



request was modified to extend from the Gile Dam to Kimball Falls Park, located approximately 0.8 miles upstream from the US Highway 2 crossing, to ensure that private landowner permission does not impact the study. Public access points between the Gile Dam and Kimball Falls Park will also be evaluated as part of the study. The Applicant incorporated AW's comments during development of the proposed Whitewater Recreation Flow Study located in Appendix I.

### **3.3 Friends of the Gile Letter Dated March 16, 2021**

FOG filed several study requests with FERC in their letter dated March 16, 2021. The study requests failed to provide the minimum amount of information as required in 18 CFR §5.9. More specifically, the study requests did not provide resource management goals, study methodologies, and for the most part, a clear nexus between Project operation and effects. The requests also did not describe how each study is consistent with generally accepted practice in the scientific community or, as appropriate, consider relevant tribal values and knowledge. Finally, their requests did not describe considerations of level of effort and cost. A discussion of the study requests is included in the following sections.

#### **3.3.1 Water Level Study**

FOG requested that a Water Level Study be completed to evaluate the impacts of the annual summer and winter drawdowns. FOG stated that the objectives of the study were to:

- 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 drawdown and water level management planning.
- Evaluate drawdown impacts on recreational use, public access, and public safety and develop strategies to mitigate impacts.

FOG did not provide the required information to be included in a study request as required in 18 CFR §5.9. Specifically, there was no information regarding resource agency or tribal goals, proposed study methodology, or the level of effort and cost of the proposed study.

Although FOG did not provide the required information, the Applicant reviewed the study request and determined that several studies proposed by the Applicant will address many of the objectives of FOG's proposed study. The Cultural Resources Study in Appendix C and the Shoreline Stability Study in Appendix G will address concerns regarding shoreline erosion and historic or cultural sites within the Project's area of potential effect (APE). The Aquatic and Terrestrial Invasive Species (ATIS) Study in Appendix B will address native aquatic and terrestrial habitat and non-native invasive species that may be impacted by water level fluctuations. The ATIS study will also collect photographs of existing shoreline habitat that can be used to characterize the project aesthetics. The Recreation Study, located in Appendix F, will evaluate water level fluctuation impacts to recreational sites. Should any study determine that project mitigation and enhancement measures (PM&E measures) are warranted, said measures will be included in the DLA where stakeholders will be given an opportunity to provide comment.

### 3.3.2 Aquatic and Terrestrial Invasive Species Study

FOG requested that an Aquatic and Terrestrial Invasive Species Study be conducted. They listed the following objectives for the study:

- Assess current Spiny Water Flea (SWF) 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, zebra mussels, and 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 (and potentially other invasive species) being a major source of these undesirable species to other area waters.

FOG did not provide the required information to be included in a study request as required in 18 CFR §5.9. Specifically, there was no information regarding resource agency or tribal goals, proposed study methodology, a clear nexus to project operation, or the level of effort and cost of the proposed study. Although FOG did not provide the required information in their study request, the Applicant determined that the proposed ATIS Study in Appendix B will determine aquatic and terrestrial invasive species present within the proposed Project boundary.

FOG has not adequately demonstrated a nexus to Project operations justifying the need for the population data or provided an attainable resource management goal for the Project. In addition, FOG has implemented a panfish improvement project to improve the panfish population and control SWF. The program began with an aggressive planting of 10,000 bluegills in 2016 and 2017 and a panfish bag limit regulation in 2017. The program also included near-shore complex habitat augmentation. Fish survey data collected in 2019 yielded the highest catch rates for bluegills in 15 years. Therefore, since SWF has already been well-documented within the project boundary, it does not have a strong nexus to Project operation. A SWF control project is already underway, therefore, monitoring for SWF is not proposed in the ATIS Study.

If the results of the ATIS Study show that PM&E measures are warranted for invasive species, they will be included in the DLA and stakeholders will be given an opportunity to provide comments at that time.

### 3.3.3 Fisheries Study

FOG requested that a Fisheries Study be completed. They listed several objectives for the study including:

- 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.

FOG did not provide the required information to be included in a study request as required in 18 CFR §5.9. Specifically, there was no information regarding resource agency or tribal goals, proposed study methodology, or the level of effort and cost of the proposed study. Although FOG did not provide the required information, the Applicant reviewed their study request.

Subsequent to the Applicant filing the PAD, WDNR provided NSPW with additional information (via e-mail on March 11, March 19, and April 27, 2021) regarding fisheries data available from 2011 through 2019. This fish data, included in Appendix K, indicates that fisheries surveys have been conducted within the Project reservoir each year from 2011 through 2019 (WDNR, 2021c; WDNR 2021d). Based upon the amount of recent fisheries data available, the Applicant believes there is sufficient information to determine species composition and frequency of abundance within the reservoir. Therefore, the Applicant is not proposing to conduct a fisheries study within the Project reservoir.

FOG also indicates that the impact of warming temperatures should be evaluated regarding the conversion of a walleye to a bass dominated fishery and management strategies should be conducted to support a sustainable walleye fishery. The 2005 Fishery Management Plan for the Gile Flowage indicates that both walleye and smallmouth bass (warm water species) are the principal gamefish species in the Gile Flowage and both populations are self-sustaining (WDNR, 2005). FOG has also been involved in an intensive bluegill planting and catch restrictions since 2016 to improve panfish populations (warmwater species). The activities of FOG and the WDNR fishery management plan do not agree with the objectives of the study request. The FOG has also not provided any applicable resource management goals to support the study. Since the study request does not support perceived resource management goals, the need for the study is lacking. In addition, FOG has not adequately demonstrated a nexus to Project operations justifying the need for the study, and WDNR has not expressed concerns regarding this issue. Therefore, no warming temperature assessment has been proposed.

#### **3.3.4 Recreation Study**

FOG requested that a Recreation Study be conducted. They listed several objectives for the study including:

- Evaluate the Flowage's silent and motorized sport recreational issues, needs, opportunities and accessibility. Recognize the connectivity of the Gile Flowage with Montreal River system and in supporting downstream recreational activities such as whitewater kayaking, fish and wildlife habitats, and aesthetics such as waterfalls.
- Develop a recreation use and management plan for the Gile Flowage including its islands and Xcel owned riparian uplands.
- Consider impacts of water level fluctuations on the recreation use.
- Recommend strategies for maintaining the aesthetic "wilderness-like" characteristics of the Gile Flowage.

FOG did not provide the required information to be included in a study request as required in 18 CFR §5.9. Specifically, there was no information regarding resource agency or tribal goals, proposed study methodology, or the level of effort and cost of the proposed study. FOG also did not adequately demonstrate a nexus to Project operations justifying the need for the collection of additional data.

Although FOG did not provide the required information in their study request, the Applicant reviewed the study request and determined that the proposed Recreation Study in Appendix F will

provide information on recreation sites and use including an evaluation of the impacts of water level fluctuations on recreation.

### **3.3.5 Historic/Cultural/Geological/Aesthetics Study**

FOG requested that a Historic/Cultural/Geological/Aesthetic Resource Study be conducted. They identified the following study objectives:

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

FOG did not provide the required information to be included in a study request as required in 18 CFR §5.9. Specifically, there was no information regarding resource agency or tribal goals, proposed study methodology, or the level of effort and cost of the proposed study.

Although FOG did not provide the required information, the Applicant reviewed their study request and determined that the proposed Cultural Resources Study in Appendix C will satisfy FOG's concerns regarding historic or cultural sites within the Project APE and whether they are being impacted by Project operations. Should the study identify any historic or cultural sites that may be adversely affected by Project operations or maintenance, the Applicant will prepare an HPMP. The HPMP will include provisions for avoiding, limiting, or mitigating any project-related adverse effects on NRHP-eligible properties.

In their study request, FOG identified several sites for study that are not located within the Project's APE. For example, tailing piles from historic mining activities, potential cultural sites near the mouth of the Montreal River, and all waterfalls on the Montreal River have all been identified for study. Any cultural sites near the mouth of the Montreal River will be assessed as part of the Superior Falls relicensing process. Several of the waterfalls identified in the study request are located upstream of the Gile Flowage or upstream of the confluence of the West Fork of the Montreal River and the Montreal River. FOG did not adequately demonstrate a nexus to Project operations justifying the need for the collection of data on the additional sites outside of the APE because they have no potential of being impacted by Project operations. The Applicant has not proposed conducting any studies outside of the Project APE.

## **3.4 National Park Service Letter Dated March 16, 2021**

NPS filed comments and several study requests with FERC in their letter dated March 16, 2021. A discussion of each of their study requests is included in the following sections.

### 3.4.1 Comprehensive Recreation Study

The NPS proposed 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 boundary. The proposed study includes the following objectives:

- Recreational Facility Inventory and Condition Assessment
- Recreational Facilities Accessibility Assessment
- Recreation Use and Demand Assessment
- Recreation Needs Assessment

The Applicant has reviewed the study request and has proposed a Recreation Study in Appendix F that generally incorporates NPS recommendations.

### 3.4.2 Recreational Flow Study

NPS requested a Recreational Flow Study from the Gile Dam to US Highway 2 to evaluate the impacts of the Project on existing and potential boating opportunities in the West Fork Montreal River, known to boaters as the “West Branch.” The study listed the following components:

- Hydrologic analysis and description of the Project and facility as they impact the rivers in the Project and facility vicinity
- Recreation user and stakeholder focus group
- The potential for a controlled flow study to determine minimum and optimal flows for boating, if warranted by findings of hydraulic analysis
- A report of recreation opportunity and potential improvements

AW provided information regarding an internet flow study conducted in 2007 that identified suitable recreational flows on the West Fork (Branch) of the Montreal River as being between 400 cfs and 1,000 cfs (AW, 2021).

The Applicant acknowledges this request and has modified it to include a controlled flow study for evaluating up to three whitewater recreational flows of 4 hours each between 600 cfs and 1,000 cfs. Actual flows released will be determined after onsite consultation with whitewater enthusiasts. The applicant has modified the study to extend from the Gile Dam to the Kimball Falls Town Park. The park is located approximately 0.8 miles upstream of the US Highway 2/West Fork crossing, which is privately owned on both sides of the road. The length of the run evaluated was modified to ensure that private landowner permission does not impact the study. The Applicant has incorporated NPS’s comments to help develop the attached Whitewater Recreational Flow Study in Appendix I. Public access points between the Gile Flowage Dam and Kimball Falls Park will also be evaluated as part of the study.

Since the range of flows to be studied have already been identified by AW’s internet study, and the NPS has not demonstrated the proposed stakeholder focus group will provide any additional justifiable benefit, the Applicant is not proposing to establish a separate stakeholder focus group, but rather will be consulting with local boating stakeholders as they participate in the study. Study participants will provide an evaluation of each flow studied and optimal flow releases will be determined by consensus.

### **3.4.3 Reservoir Level Assessment**

NPS requested a Reservoir Level Assessment to examine how water level impacts recreation and cultural resources. The study goal is to address the potential effects of Gile Flowage water level fluctuation by evaluating historical lake level data, boat ramp specifications, cultural and environmental shoreline resources, and Project operations.

The Applicant acknowledges this request and has incorporated an analysis of how water level fluctuations impact recreation sites in the Recreation Study in Appendix F. Potential historic and cultural resource impacts due to reservoir fluctuation will be evaluated in the proposed Cultural Resources Study in Appendix C. An analysis of aquatic and terrestrial invasive species and shoreline habitat will be conducted in the proposed ATIS Study in Appendix B.

## **3.5 River Alliance of Wisconsin Letter Dated March 17, 2021**

RAW filed comments and several study requests with FERC in their letter dated March 17, 2021. A discussion of each study request is included in the following sections. RAW did not provide any resource management or tribal goals or any information on level of effort and cost for the proposed study as required under 18 CFR §5.9. Instead, the RAW defers to resource agencies or Native American tribes to provide the information. Therefore, they have not provided justification for any additional study requirements beyond those already requested by the resource agencies.

### **3.5.1 Drawdown Study**

RAW requested that a Drawdown Study be completed that includes the use of a reservoir/flow routing model. RAW lists the goal of the study as identifying alternative drawdown scenarios that compare power generation with other uses of the Gile Flowage including recreational use and protection of the aquatic community and the habitats on which they depend. RAW recommends that several selected minimum flow discharges from the dam be evaluated that correspond to drawdown levels needed to support the minimum flow. They also recommended that the amount and value of power production that would be generated with each scenario also be provided.

Although RAW did not provide the required information, the Applicant reviewed their study request and determined that much of the information requested will be provided in several other proposed studies. The ATIS Study in Appendix B proposes to collect information regarding native and invasive species within the littoral zone and shoreline areas to assist with an evaluation of drawdown impacts on botanical, fish, and wildlife resources. The proposed Minimum Flow and Habitat Evaluation Study in Appendix D will help to determine if minimum flows are sufficient to protect aquatic resources downstream of the Project. The Proposed Recreation Study in Appendix F will evaluate the impacts of reservoir fluctuation on recreation at the Project. No specific Drawdown Study has been proposed.

### **3.5.2 Mussel Study**

RAW requested that a Mussel Study be completed at the Project. The goal of the study is to as determine mussel species density and diversity, including characterizing mussel habitat in the reservoir.

Although RAW did not provide the required information necessary to justify a study request, the Applicant reviewed the request and determined that the proposed Mussel Study in Appendix E will generally provide the information requested.

### **3.5.3 Aquatic and Terrestrial Invasive Species Study**

RAW requested that an Aquatic and Terrestrial Invasive Species Study be completed at the Project. They list the goal of the study as identifying what ATIS species are present so they can be controlled or removed before they become established.

Although RAW did not provide the required information for a study request, the Applicant reviewed the request and determined that the proposed ATIS Study in Appendix B will generally provide the information regarding aquatic and terrestrial invasive species requested by RAW.

### **3.5.4 Aquatic Plant Study**

RAW requested that a submergent and emergent Aquatic Plant Study be completed at the Project. The goal of the study is listed as documenting and updating species diversity and relative abundance of native aquatic plants in the Project reservoir.

Although RAW did not provide the required information for a study request, the Applicant reviewed the request and determined that the proposed ATIS Study in Appendix B will generally provide information regarding native aquatic and terrestrial species as requested by RAW. As part of the proposed study, a survey following the WDNR point-intercept method for sampling aquatic plants will be conducted.

### **3.5.5 Fish Study**

RAW requested that a fishery survey be conducted to include data on species composition and frequency of abundance.

Although RAW did not provide the required information for a study request, the Applicant reviewed the request. As described in Section 3.3.3, subsequent to the Applicant filing the PAD, WDNR provided NSPW with additional information (via e-mail on March 11, March 19, and April 28, 2021) regarding fisheries data available from 2011 through 2019. The fisheries data, included in Appendix K, indicates that fisheries surveys have been conducted within the Project reservoir each year from 2011 through 2019 (WDNR, 2021c; WDNR, 2021d). Based upon the amount of recent data available, the Applicant believes the existing fisheries information should be sufficient to determine species composition and frequency of abundance within the reservoir. Therefore, the Applicant is not proposing to conduct a fisheries study within the Project reservoir.

### **3.5.6 Recreation Study**

RAW requested that a Recreation Study be conducted to evaluate the existing condition of recreational facilities and document needed upgrades or improvements.

Although RAW did not provide the required information for a study request, the Applicant reviewed the request and determined that the proposed Recreation Study in Appendix F will generally provide the information requested by RAW including an inventory of existing recreation facilities, their location, their

condition, and what type of recreation they accommodate. The study report will also document the need for improvements to existing recreation sites and whether any additional sites are needed.

### **3.6 Wisconsin Department of Natural Resources Letter Dated March 5, 2021**

WDNR filed comments and several study requests with FERC in their March 5, 2021 letter. A discussion of each of their study requests is included in the following sections.

#### **3.6.1 Minimum Flow, Drawdown, and Resource Impacts Study**

WDNR requested that an Assessment of Minimum Flow, Drawdowns, and Resource Impacts Study be completed. The goal of the study is to determine if Project minimum flows of 10 cfs, a maximum drawdown of 15 feet, and drawdowns during the summer and winter are providing sufficient flows for aquatic resources.

WDNRs proposed study methodology indicated that habitat should be evaluated with the Quantitative Habitat Assessment Methodology downstream of the impoundment at various flows and tied to a cfs discharge. WDNR also recommended installing water level sensors to record changes in water levels and flows within 15-minute increments. No other methodology was provided on how to evaluate the maximum drawdown, and summer and winter drawdowns.

It should be noted that the reach of river downstream of the Gile Dam is not a bypass reach. All water flowing into the Gile Flowage is passed through the Gile Dam and downstream. The annual volume of water flowing in the Montreal River downstream of the Gile Dam is the same as the annual volume of water flowing into the Gile Flowage. Therefore, any study of this reach will be different from the traditional study of minimum flow requirements for a bypassed reach at a hydroelectric project.

The Applicant has been releasing a minimum flow of 12 cfs from the Gile Dam since at least 2017 instead of the required minimum flow of 10 cfs. According to daily average flow release records from April 29, 2017 to February of 2021, flows exceeded 12 cfs 64% of the days in the data record. Flows released during this timeframe exceeded 30 cfs (300% of the required minimum flow) 63% of the time.

The Applicant acknowledges this study request. In regard to an assessment of the fishery at Gile Flowage, the WDNR references a 2017 fish survey that was completed downstream of the Gile Dam. This information, however, was not provided to the Applicant during the scoping for information when it was developing the PAD. WDNR provided this information via email on April 28, 2021. The data shows that sufficient information exists to determine the fish assemblage downstream of the Gile Dam. Therefore, the Applicant has proposed a Minimum Flow Habitat Evaluation Study, excluding any fish sampling, in Appendix D.

The wetted perimeter will be determined at the current minimum flow release of 12 cfs measured by gate opening analyzed against the bank full wetted perimeter potential. This will provide a comparison of current habitat availability versus habitat available at minimum flow releases higher than 12 cfs. Habitat will be evaluated using WDNR Guidelines for Evaluating Habitat of Wadable Streams modified to provide a more cost-effective and efficient method of collecting the data required to review minimum flow releases.



The Applicant currently maintains an electronic sensor that monitors reservoir water levels which can be used to document the frequency and degree of reservoir water level fluctuations throughout the year. The Applicant will provide an analysis of the frequency and extent of the summer and winter drawdowns over the past 10 years as part of the DLA.

A littoral zone study of Gile Flowage was conducted in 2005 which evaluated the vegetation and substrate of the upper six feet of the reservoir operating range (1,084 to 1,090 feet NGVD) (FOG, 2005). NSPW has proposed to complete a point intercept aquatic plant survey as part of the ATIS Study (see Appendix B). Additional information on lakebed substrates will be collected in coordination with the point intercept survey. In order to help assist with determining habitat within the littoral zone, substrates will be classified by probing into one of the following nine substrate types: clay, silt, sand, gravel, cobble, boulder, bedrock, wood, or organic. Information from this study, including vegetation present and substrates at depths within the allowed operating range of 1,075 to 1,090 feet NGVD, will be evaluated along with the information from the existing littoral zone study to determine potential resource impacts associated with summer and winter drawdowns.

### 3.6.2 Assessment of Stream Flows, Channel Dimensions, and Linear Gradient Study

WDNR requested that an Assessment of Stream Flows, Channel Dimensions, and Linear Gradient Study be conducted. The goal of the study is to determine the impact the Project has on the existing stream flows, channel dimensions, and linear gradient downstream of the reservoir.

WDNR's study methodology indicated that the Quantitative Habitat Assessment Methodology should be used to document habitat conditions. However, the Applicant has found it necessary to modify the WDNR-recommended methodology to make it more cost effective.

The Applicant acknowledges the study request and proposes to conduct the Minimum Flow Habitat Evaluation Study in Appendix D downstream of the Gile Dam. The Applicant believes the proposed study will provide sufficient information to assess the minimum flow impacts from the operation of the Project.

### 3.6.3 Water Quality Monitoring Study

WDNR requested that a Water Quality Study be conducted to further understand current water quality conditions of the flowage and riverine resources to ensure state water quality standards are being met. WDNR recommended that data should be collected or analyzed using the WDNR WISCALM Guidance and surface water gram sampling protocol. WDNR requested that the following water quality parameters be monitored:

<i>Total Phosphorus</i>	<i>Color</i>	<i>Ammonia</i>
<i>Chlorophyll a</i>	<i>Total Nitrogen</i>	<i>Chloride</i>
<i>Dissolved Oxygen (DO)</i>	<i>Sulfate, Total Mercury</i>	<i>Bacteria</i>
<i>Temperature</i>	<i>Methyl Mercury</i>	<i>Cyanobacteria</i>
<i>Conductivity</i>	<i>Iron, Manganese, Sulfide</i>	<i>Total Suspended Solids</i>
<i>pH</i>	<i>Dissolved phosphorus</i>	<i>Sediment Accumulation</i>
<i>Secchi Depth</i>	<i>Nitrate (plus Nitrite)</i>	

The Applicant acknowledges the study request and has proposed a Water Quality Study in Appendix G that includes all parameters requested except methyl mercury, cyanobacteria, and sediment accumulation.

The guidance provided by WDNR indicates that methyl mercury is sampled via fish tissue samples. Fish tissue sampling was conducted in 2011 and 2013 according to SWIMS water quality data provided by WDNR on March 11, 2021 (WDNR, 2021c). SWIMS data provided by WDNR is attached in Appendix L. Since there is existing information regarding mercury levels in fish tissue from the Project reservoir, no additional fish tissue sampling is included in the proposed study.

According to information provided by WDNR in their study request, cyanobacteria/cytotoxins method of sampling is “in development” and frequency of sampling is “to be determined” (WDNR, 2021b). Since there are no currently approved sampling protocols in place, the Applicant has excluded this parameter from the study.

There is no protocol identified for sampling sediment accumulation within the reservoir. Since there are no approved sampling protocols provided, and since there is no indication that sediment accumulation within the reservoir is impacting water quality, this parameter has not been included in the study.

#### **3.6.4 Fish Movement Study**

WDNR requested that a Fish Movement Study be conducted to better understand fish movement in the reservoir and downstream of the Gile Dam.

WDNR indicated in their study request that fishery information was collected downstream of the Gile Dam in 2017. They also provided additional fisheries data as described in Section 3.5.5 above. This existing fisheries information should be sufficient to determine diversity and abundance of fish within the reservoir and downstream.

The WDNR did not provide any required information of substance in the study request as required in 18 CFR §5.9. Specifically, the goals and objectives and the resource management goals provided are unspecific, general, and unresponsive to the detail of the data need. The request has also not demonstrated an adequate nexus to the operation of the Project where water is released downstream through a gate. Lastly, the WDNR has not provided a level of effort or a cost to conduct the study.

The requested study could provide data that the WDNR may be interested in obtaining. However, the WDNR has not justified why the Project should support the data collection when the WDNR has their own means to collect similar data to fulfill the general goal they have been tasked with; to manage the public water for recreational use, such as fishing, protection and management of species, and overall health of the fishery of the State.

The Applicant is not proposing to conduct this study.

### 3.6.5 Fisheries Study

WDNR requested that a Fisheries Study be completed to determine the diversity and abundance of the fish community within the Project and recommended electrofishing and netting within the Gile Flowage and electrofishing below the Gile Dam downstream to Saxon Falls Flowage.

The study request indicates that WDNR conducted fish surveys within the Gile Flowage and downstream of the Gile Dam on the Montreal River in 2017. Although the WDNR indicated in its March 5, 2021 letter that it had provided fisheries information to the Applicant, no fisheries data from WDNR was received by NSPW prior to filing the PAD. All fisheries data included in the PAD was obtained via online through publicly accessible websites.

WDNR first provided fisheries data on March 11, 2021. WDNR provided additional fisheries data on March 19. This fisheries data, which includes data from 2011-2019, is included in Appendix K. During this timeframe fish surveys were conducted each year between 2011 and 2019. Spring netting surveys were conducted in 2012, 2014, and 2015. Summer electrofishing surveys were conducted in 2011, 2013, 2015, and 2017. Summer netting surveys were conducted in 2011, 2015, 2016, 2017, 2018, and 2019. Fall electrofishing surveys were conducted in 2013 and 2017 and fall netting surveys were conducted in 2013 (WDNR, 2021c; WDNR, 2021d). Based upon the amount of recent fisheries data available, the Applicant believes there is sufficient existing information to determine species composition and frequency of abundance within the Project. Therefore, the Applicant is not proposing to conduct a Fisheries Study.

The Applicant notes that WDNR provided the existing information regarding fish sampling downstream of the Project dam on April 28, 2021 (WDNR, 2021f). This data, included in Appendix K, provides sufficient data regarding fisheries downstream of the Project.

### 3.6.6 Wildlife and Wildlife Habitat Study

WDNR requested that a Wildlife and Wildlife Habitat Study be completed to document wildlife presence and diversity, habitat types, and general wildlife and vegetation abundance within the Project area. The goal of the study is to evaluate the distribution and composition of vegetation, wildlife, and wildlife habitats, including wetlands and the effects of operations on wildlife inhabiting those habitats.

WDNR also requested an assessment of the presence and habitat for several bumble bee species that are either federally endangered, federal species of concern, or state species of concern. None of these bumble bee species were identified in the USFWS IPaC species list or WDNR's ER Review Log #19-734 (NSPW, 2020; WDNR, 2021a) and none are known to occur in the Project area. The WDNR failed to provide a nexus between Project operation and potential impacts to these species. Therefore, no study is being proposed.

The Applicant is not proposing any changes to the operation of the Project that would impact upland wildlife or upland wildlife habitat. Therefore, no wildlife observation surveys are being proposed. A terrestrial vegetation component of the proposed ATIS Study in Appendix B, detailing the dominant vegetation cover types of the reservoir and island shorelines, will provide habitat information. An

analysis of the types and amounts of wetlands in the proposed Project boundary using existing wetland information will be included in the DLA.

### **3.6.7 Macroinvertebrate Study**

WDNR requested that a Macroinvertebrate Study be conducted downstream of the Gile Dam. The objective of the study is to assess water quality using macroinvertebrate bio-indicators downstream of the dam.

The Applicant has proposed to conduct a Water Quality Monitoring Study in Appendix H as described in Section 3.6.3. This study includes sampling sites within the reservoir and downstream of the dam. Additionally, in 2017 WDNR conducted macroinvertebrate sampling of four tributaries (monitoring station numbers 10032141, 10032145, 10049233, and 10032140) entering the Gile Flowage. They also conducted sampling at one site on the West Fork (monitoring station number 10022049) in 2010 and one site (monitoring station number 10022050) in 2017. These monitoring stations are located 3.5 and 5.2 miles downstream of the Gile Dam, respectively. Sampling data for all of the sites is included in Appendix Q.

The Applicant believes that the data to be collected from the Water Quality Monitoring Study, combined with the existing macroinvertebrate information already available, should provide sufficient information to determine water quality within and downstream of the Gile Flowage. Therefore, the Applicant is not proposing to conduct a Macroinvertebrate Study.

### **3.6.8 Aquatic and Terrestrial Invasive Species Study**

WDNR requested that an Aquatic and Terrestrial Invasive Species Study be completed to evaluate the presence or absence of invasive species listed in NR 40, including habitat preferences within the Gile Flowage. The goal of the study is to identify the location of existing invasive species in order to minimize their spread to new areas.

The Applicant has proposed an ATIS Study in Appendix B that generally provides the information requested by WDNR.

### **3.6.9 Aquatic Plant Study**

WDNR requested that an Aquatic Plant Study be completed to provide baseline data on the condition of the plant community in the Gile Flowage and the overall health of the Gile Flowage as a bio-indicator site.

The Applicant has reviewed the study request and determined that the proposed ATIS Study in Appendix B, which includes a point-intercept vegetation survey utilizing the WDNR's Recommended Baseline Monitoring of Aquatic Plants in Wisconsin methodology, will generally provide the information requested by WDNR.

### **3.6.10 Mussel Study**

WDNR requested that a Mussel Study be conducted to determine freshwater mussel density and diversity, including characterizing mussel habitat within the Gile Flowage.

The Applicant has proposed a Mussel Study in Appendix E that will generally provide the information requested by WDNR.

### **3.6.11 Assessment of Riverine and Reservoir Habitat Study**

WDNR requested that an Assessment of Riverine and Reservoir Habitat Study be conducted. The goal of their study request is to assess the existing reservoir habitat conditions, including upstream and downstream of the Gile Flowage, to determine if degradation is occurring and if resources are being adversely affected.

The Applicant has proposed to conduct an ATIS Study as included in Appendix B. The study includes a point intercept vegetation survey and an analysis of vegetation along the reservoir shoreline. The Applicant has also proposed to evaluate minimum flows via the Minimum Flow Habitat Evaluation Study in Appendix D which will provide habitat information downstream of the Gile Dam. NSPW believes that the two proposed studies will provide sufficient information to assess the riverine and reservoir habitat within the proposed Project boundary as requested by WDNR.

### **3.6.12 Wood Turtle Study**

WDNR requested that a Wood Turtle Study be completed. The study would determine if wood turtles and wood turtle nests are present within the Project boundary.

The Applicant has reviewed the WDNR's Wood Turtle Species Guidance which can be found at the following web address: [Wood Turtle \(\*Glyptemys insculpta\*\) Species Guidance: identification, life history, project screening, avoidance measures, and more. \(wi.gov\)](#). This document indicates that wood turtles prefer streams or rivers with forested riparian corridors and that they do not typically inhabit lakes, ponds, or intermittent streams. They prefer to overwinter at the bottom of flowing streams that possess high oxygen content and do not freeze. The majority of the Gile Flowage is characterized as slack water not typically inhabited by wood turtles. The reservoir is covered in thick ice during the winter and therefore does not provide the open water habitat preferred for overwintering. WDNR conducted an endangered resources review (ER Review) of the proposed Project boundary to identify the potential presence of rare species. In ER Review Log # 19-734, wood turtles were identified in the review. The review indicated that suitable habitat for the species included three specific locations, including uplands and wetlands within 300 meters from the stream (WDNR, 2021).

The Applicant has proposed to conduct a Wood Turtle Study as included in Appendix J. The study would include surveys for the presence/absence of wood turtles and their nesting sites and be restricted to the three specific habitat areas listed in ER Review Log # 19-734. Areas not identified as suitable habitat for the species in the ER Review Log # 19-734 will not be surveyed. The applicant is proposing to conduct two presence/absence surveys per week for four weeks for those areas identified as suitable in the ER Review, focusing on free-flowing sections of the three specific areas

within the proposed Project boundary. Since the area downstream of the Gile Dam was not identified in the ER Review, NSPW has not included that location for monitoring.

The Applicant is also proposing to identify suitable nesting habitat within the study area and conduct wood turtle nesting site surveys at the same time and frequency that presence/absence surveys are conducted. WDNR recommended daily nesting site surveys for four weeks in their study request. The Applicant believes this request is prohibitively expensive, and that the combination of presence/absence surveys, identification of suitable nesting habitat within the study area, and the limited nesting site surveys proposed, is sufficient to evaluate potential impacts of seasonal drawdowns on this species.

### **3.6.13 Recreation Study**

WDNR requested that a Recreation Study be completed to evaluate the current recreational uses, including opportunities for low flow and high flow events, public access, natural scenic beauty, trails, water sports, fishing, with consideration for different seasonal uses.

The Applicant has reviewed WDNR's study request and proposed a Recreation Study in Appendix F that generally incorporates WDNR recommendations. Additionally, the Applicant has proposed a Whitewater Recreational Flow Study in Appendix I to evaluate preferred flows for whitewater boating downstream of the Gile Dam.

### **3.6.14 Study Assessing the Montreal River for the Cumulative Impact of All Three Projects**

WDNR requested that a study be conducted to assess the cumulative impacts of all three Projects on the Montreal River. The study is to be a comprehensive assessment of how the three dams work independently and together, as well as an assessment of their impacts to the environment.

WDNR lists the methodology as the project studies should be designed to characterize the Montreal River and reservoir systems, including an operations and flow study that assesses how each project functions independently and together. They also indicated that the study should 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.

WDNR lists the nexus between Project operations and potential effects on the resources to be studied as: *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.*

This study request duplicates other study requests submitted by WDNR in their March 5, 2021 letter. The Applicant is proposing to continue operating all three facilities as they are currently operated. Both the Superior Falls and Saxon Falls projects are run-of-river plants that pass all inflow downstream and do not conduct routine drawdowns of their reservoirs. Any changes in river flows at those facilities is due to natural river flow or natural river flow supplemented with flow releases from the Gile Flowage. Since the proposed studies in this PSP provide sufficient information to assess the environmental impact of continued operation of the three dams, the Applicant is not proposing to complete this study.

## 4. Study Reports

The Applicant plans to report the results of the proposed studies within the framework afforded by the ISR and associated ISR Meeting, as well as the USR and Associated USR Meeting, if required. At this time, the Applicant is proposing to file technical study reports with FERC and provide stakeholders access to the study reports consistent with the schedule presented in Table 4-1. If any study reports are not finalized and included in the ISR, progress reports will be filed quarterly with FERC until the final USR is filed. The Applicant notes that adverse weather conditions or other circumstances may necessitate modifications to this schedule. The Applicant will notify stakeholders of any changes in the schedule through the quarterly progress reports, as necessary.

Table 4-1 Preliminary Schedule for Study Reporting

Study	Anticipated Date of Study Report
Aquatic and Terrestrial Invasive Species Study (ATIS)	September 28, 2022
Cultural Resources Study	September 28, 2022
Mussel Study	September 28, 2022
Minimum Flow Habitat Evaluation Study	September 28, 2022
Mussel Study	September 28, 2022
Recreation Study	September 28, 2022
Shoreline Stability Study	September 28, 2022
Water Quality Study	September 28, 2022
Whitewater Recreation Flow Study	September 28, 2022
Wood Turtle Study	September 28, 2022

## 5. Proposal for the PSP Meeting

Pursuant to 18 CFR §5.11(e), the Applicant is providing information regarding the PSP Meeting that will be held for the purposes of clarifying the PSP, explaining information-gathering needs, and resolving outstanding issues associated with the proposed studies. FERC's regulations and the approved Process Plan and Schedule require the Applicant to conduct the Meeting within 30 days of filing this PSP. Accordingly, NSPW will hold the meeting on May 20, 2021 at 10:00 am. Due to ongoing COVID-19 concerns with gathering in large groups, the meeting will be held virtually.

NSPW respectfully requests that individuals or organizations that plan on attending the PSP Meeting RSVP no later than May 14, 2021, by emailing Matthew Miller at the address below:

- Date: May 20, 2021
- Time: 10:00 a.m.
- Location: Conference Call/Teams Meeting
- For additional information, please contact:

Matthew Miller  
Xcel Energy  
Hydro License Compliance Consultant  
1414 W. Hamilton Ave., PO Box 8  
Eau Claire, WI 54702  
[matthew.j.miller@xcelenergy.com](mailto:matthew.j.miller@xcelenergy.com)



## 6. FERC's Additional Information Requests

In their comments dated March 17, 2021, FERC staff requested additional information on the Project based on their review of the PAD. The following sections identify the additional information requests and NSPW's response to each requested item.

### 6.1 Type of License Application

FERC Comment:

*...please ensure that Northern States Powers' license application conforms to the requirements of a major water project of 5 MW or less.*

NSPW Response:

The Applicant will ensure that the license application conforms with the requirements of a major water power project of 5MW or less.

### 6.2 Generating Capacity

FERC Comment:

*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.*

NSPW Response:

Superior Falls has a generating capacity of 1.65 MW. Saxon Falls has a generating capacity of 1.50 MW. The combined generating capacity of both projects is 3.15 MW.

### 6.3 Use of Relicensing Terminology

FERC Comment:

*The PAD in Table 2.1-1, states that is FERC's goal to issue the new license before the current license expires. However, because there is not 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 for, the Gile Project.*

NSPW Response:

The Applicant will not reference relicensing or existing license in future filings.

### 6.4 Datum

FERC Comment:

*The NOI in Section 5, Principal Project Works, and Project Description, provides the datum of elevations as national Geodetic Vertical Datum of 1929. However, all of 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.*

NSPW Response:

The Applicant will include the datum when presenting elevations in all future filings.

## **6.5 Supporting Design Report**

FERC Comment:

*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 on the supporting design report for the Gile Project in the final license application.*

NSPW Response:

The Applicant will ensure that a supporting design report containing the required information will be filed with the Final License Application.

## **6.6 Dam**

FERC Comment:

*The PAD in section 3.2.1.1 Dam, states that the sluiceway bay includes a vertical slide gate. However, the same paragraph mentions the sluiceway bay includes a sluice gate. It is not clear whether there are two gates in the sluiceway bay. If there are two 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.*

NSPW Response:

There is one vertical slide-type gate in the sluiceway bay. It will be referred to exclusively as the sluice gate in all future filings.

## **6.7 Reservoir**

FERC Comment:

*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 these lands are located.*

NSPW Response:

NSPW used GIS parcel data from Iron County, Wisconsin to create a map showing all parcels that are either within the proposed Project boundary or immediately adjacent to it. Those parcels not owned by NSPW are numbered. The map and tables, depicting ownership and status of flowage rights, are included in Appendix M.

## 6.8 Normal Pool and Tailwater Elevations

### FERC Comment:

*The PAD in section 3.3.1 Current Operation, states that the maximum pool elevation is 1,490 feet and the minimum pool elevation is 1,475 feet. Please provide the normal pool elevation of the reservoir and the normal water surface elevation of the tailwater.*

### NSPW Response:

Normal pool elevation is considered to be 1490.0 feet NGVD. The normal tailwater elevation is approximately 1466.0 feet NGVD or approximately 6 inches above the spillway apron.

## 6.9 Gate Changes

### FERC Comment:

*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 which factors affect which gates are used.*

### NSPW Response:

The sluice gate is normally used to release the minimum flow of approximately 12 cfs. It is also adjusted to release flows up to approximately 1,000 cfs.

Flows greater than 1,000 cfs are released via a combination of the sluice gate and tainter-type (radial) gate.

Discharge from the Gile Dam is increased above the minimum flow (usually only one change per day) when the reservoir elevation downstream at Saxon Falls begins to drop.

Gate adjustments are also made to increase the discharge above the minimum flow of 12 cfs when the Gile Flowage elevation could exceed full pool (1,490 feet NGVD 1929) due to spring runoff or precipitation events.

The water stored at the Gile Flowage is released during low-flow periods to augment streamflow for downstream hydroelectric production.

During a typical water year, the Gile Flowage cannot provide enough water to the downstream hydroelectric projects to allow them to generate at peak efficiency all year. Therefore, water releases from the Gile Dam are prioritized throughout the year when the system demands that the generating units operate efficiently.

## 6.10 Description of How Downstream Releases are Determined

### FERC Comment:

*The PAD in section 3.3.1 Current Operations, 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 either the West Fork Montreal River or the 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.*

### NSPW Response:

See response in section 6.9.

## 6.11 How Storage Volume in Reservoir is Allocated

### FERC Comment:

*The PAD in section 3.3.1 Current Operations, 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.*

### NSPW Response:

See response in section 6.9.

## 6.12 Operation During Freezing Conditions

### FERC Comment:

*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*

### NSPW Response:

Discharge from the Gile Dam during freezing conditions is regulated by the sluice gate. Should flows exceed the capacity of the sluice the gate ( $\approx 650$  cfs), the radial gate would be utilized. Precautions are taken to assure both gates remain operable during freezing conditions.

## 6.13 Description of How Downstream Releases are Determined

### FERC Comment:

*The PAD in section 3.3.1 Current Operations, 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 1490.0 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 of 1,475.0 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.*

NSPW Response:

The PSCW Order is included in Appendix N. The Order allows for a maximum pool of 1,495 feet NGVD (Top of Dam El.) with a normal pool elevation of 1,490 feet NGVD. The normal pool elevation of 1,490 feet NGVD is used by the Applicant as the maximum elevation. There is no specific written record of the gentleman's agreement. The term was used to describe past practice because the Applicant cannot find a written agreement for the minimum elevation. Past practice regarding winter drawdowns is 15 feet.

## 6.14 How Minimum Flow was Established

FERC Comment:

*The PAD in section 3.3.1 Current Operations, states that a minimum flow of 10 cfs has historically been passed downstream of the project dam in accordance with the city of Montreal. Please describe this 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.*

NSPW Response:

It is the Applicant's understanding that the 10 cfs minimum flow is related to the Village of Montreal's wastewater treatment plant. In order to maintain water quality downstream, a flow of 10 cfs in the river at the point of discharge from the waste treatment plant was necessary. Additionally, WDNR indicated in their Gile Flowage Fish Management Plan that under authority of Section 401 of the Clean Water Act, DNR has ordered that a minimum downstream flow be maintained at 10 cubic feet per second in order to ensure downstream water quality (WDNR, 2005). It should be noted, as a general recent practice, the Applicant has been releasing a minimum flow of 12 cfs according to the sluice opening. It is possible this requirement is based upon the minimum flow requirements outlined in [Section 31.34 of Wisconsin State Statutes](#). However, the Applicant has not been able to verify the 10 cfs minimum flow is the low flow of the stream over the preceding 10-year period, as determined using the 7-day, 10-year low-streamflow method, or the amount of water passed by groundwater seepage and leakage through the dam structure. The Applicant believes 10 cfs is the low flow of the stream over the preceding 10-year period, as determined using the 7-day, 10-year low-streamflow method because the Section 401 water quality certification for the downstream waste treatment plant has the same 10 cfs requirement.

## 6.15 Other PSCW Requirements

FERC Comment:

*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 1490 feet, please describe if the Wisconsin Public Service Commission's order mandates any other requirements and if so, describe these requirements.*

NSPW Response:

The PSCW Order is enclosed for Commission review in Appendix N.

## 6.16 Other Regulatory Requirements

FERC Comment:

*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.*

NSPW Response:

The Gile Dam is regulated by the State of Wisconsin based upon the Public Trust Doctrine which emanates from Article IX, Section 1 of the Wisconsin Constitution. It states that all rivers, lakes, and navigable waterways are under the jurisdiction of the State of Wisconsin. Any structure which is built on a waterway impacts the public rights to that waterway and needs to be monitored by the State of Wisconsin to assure safety, water quality, and public access, and monitor its impact on Wisconsin wildlife. The most recent inspection by the State of Wisconsin occurred on July 26, 2011. The last consultant inspection occurred on June 22, 2016 and the last owner's inspection occurred on September 25, 2019. The State of Wisconsin (WDNR) submitted a concurrence letter regarding the 2019 inspection on January 13, 2020. The directives included in said letter have either been addressed (i.e. on-going monitoring requirements) or are in progress.

## 6.17 Other Regulatory Requirements

FERC Comment:

*The PAD in section 3.4.2 General Description of 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.*

NSPW Response:

The PSCW Order granted permission for the construction, operation, and maintenance of the dam under Section 31.06 of Wisconsin State Statutes. Therefore, it is regulated by the State of Wisconsin under the requirements of [Chapter 31 of Wisconsin State Statutes](#).

## 6.18 USGS Gage Location and Date of Record

FERC Comment:

*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 US Geological Survey Gage (USGS Gage No 40299000). We can find no reference on the USGS Internet site for Wisconsin or Michigan to Gage No. 4029900. Please provide the location and period of record for gage N. 40299000.*

NSPW Response:

There was a typographical error in the USGS Gage number listed in the PAD on page 17. USGS Gage 04029990 Montreal River at Saxon Falls near Saxon, Wisconsin was used. According to the USGS National Water Information System Web Interface located at [https://waterdata.usgs.gov/nwis/dv?referred\\_module=sw&site\\_no=04029990](https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=04029990), daily discharge values were provided by Xcel Energy, the period of record is October 1986 through October 2017, and the location is listed as Latitude 46.53689°N, Longitude 90.37990°W. Since daily discharge values were provided by Xcel Energy, there was no physical gage at this location.

## 6.19 Description of Montreal River

FERC Comment:

*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 of the Montreal River 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.*

NSPW Response:

The lengths of river segments were transposed in the PAD. It should read as follows:

*The Montreal River flows approximately **35** miles from its headwaters northwesterly until it meets with the West Branch of the Montreal River then continues westerly for an additional **18** miles.*

## 6.20 Description of Montreal River

FERC Comment:

*The PAD in section 4.3.2, Streamflow, Gage Data, Flow Statistics, states that the 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 the 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 period 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.....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.*

NSPW Response:

The Applicant plans to utilize the most-current five consecutive years of daily flow release data from either the Saxon Falls or Super Falls Project and subtract the flow releases for the same time period as recorded at the Gile Dam to obtain the flow record in the Main Branch of the Montreal River at its confluence with the West Branch. The Main Branch flow record will be adjusted based upon the ratio of

the drainage basin at the confluence of the Main Branch and the drainage basin at the Gile Dam to provide a record of inflow to the Gile Flowage.

## 6.21 Reservoir Area During Drawdown/Winterkill

### FERC Comment:

*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 reservoir near the project dam shows an area about 1,000 square feet that has an elevation of less than 1468 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, 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 feet in the winter could adversely affect fish by causing winterkills 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.*

### NSPW Response:

NSPW is not aware of a history of winterkills on the Gile Flowage and WDNR did not address winterkill as a concern in their March 5, 2021 filing, *Comments on Notice of Intent, Scoping Document 1, Preliminary Application Document, and Studies Request* (WDNR, 2021a).

In 2019, Ayres Associates prepared a report titled *Estimation of Gile Reservoir Storage Benefits for Saxon Falls and Superior Falls Hydroelectric Projects*. NSPW filed the report with FERC on February 20, 2020, under Docket No. UL20-1-000-WI - *Response to Additional Information Request Regarding Reservoir Storage Benefits*. The report includes the surface area and volume of the Gile Flowage at various elevations. Table 6.21-1 below details this information (Ayres, 2019).

For the period 1984 - 2017, the maximum winter drawdown recorded was 10.9 feet. Based on the information provided in Table 6.21-1, the estimated surface area and volume of the reservoir at this elevation would be approximately 1,923 acres and 9,871 acre-feet, respectively. The maximum summer drawdown for the same period was 7.8 feet. At this elevation, the estimated surface area and volume of the reservoir would be 2,350 acres and 16,818 acre-feet, respectively (Ayres, 2019).

Table 6.21-1 Elevation Storage Table for Gile Flowage Storage Reservoir (extrapolated from Ayres, 2019)

Elevation (Feet NGVD)	Amount of Drawdown (Feet)	Surface Area (Acres)	Volume (Acre-feet)
1,490 (max, normal)	0	3,317	40,000
1,485	5	2,800	25,000
1,480	10	2,250	11,000
1,475	15	1,200	3,000



## 6.22 Cylindrical Papershell and Eastern Elliptio Mussels

### FERC Comment:

*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 mussel, 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.*

### NSPW Response:

The WDNR website previously allowed individuals to search for known mussel species by stream; that feature is no longer available. The website identified the known presence of these two mussel species in the Montreal River. WDNR provided NSPW with additional information regarding mussels via email on March 19, 2021. Mussel information on the WDNR website is currently located at <https://wiatri.net/inventory/mussels/>. WDNR indicated that there are no mussel records specifically from the Project area, however, they would expect to find these species if surveys were conducted since the Project area is located within the known range of both species (WDNR, 2021e). A description of preferred habitat for each species is listed below.

The Eastern (or Atlantic) Elliptio (*Elliptio complanata*), a species of special concern at the state level, is confined to the Lake Superior Drainage of the northwest part of Wisconsin. It lives in rivers and streams, lakes, impoundments, and bays of Lake Superior and its tributaries (WDNR, 2021e).

In Wisconsin, the Cylindrical Papershell (*Anodontooides ferusscianus*) is found in the mid-to-upper Mississippi River, inland rivers, lakes, and in tributaries to the Great Lakes. It lives in rivers and streams and can be found in lakes or impoundments (WDNR, 2021e).

## 6.23 Cylindrical Papershell and Eastern Elliptio Mussels

### FERC Comment:

*Furthermore, the discussion and reference to these two mussels in the PAD cites a Wisconsin Department of Natural Resources (WDNR) web site as a source of information for the two mussels. However, the website 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 on 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.”*

### NSPW Response:

See response in Section 6.1.22 above.

## 6.24 Quagga Mussels and Asiatic Clams

### FERC Comment:

*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 species are in project waters and the sources of information.*

### NSPW Response:

A review of the WDNR Quagga Mussel website, located at [https://dnr.wi.gov/lakes/invasives/AISLists.aspx?species=QUAGGA\\_MUSSEL](https://dnr.wi.gov/lakes/invasives/AISLists.aspx?species=QUAGGA_MUSSEL), shows that the known distribution of the quagga mussel is limited to six locations in five different water bodies within the state. There are no known occurrences of Quagga mussels in Iron County, where the Project is located.

A review of the WDNR Asiatic Clam (*Corbiculata*) website, located at [https://dnr.wi.gov/lakes/invasives/AISLists.aspx?species=ASIATIC\\_CLAM&status%20%3C%3E%20OBSERVED&groupBy=County](https://dnr.wi.gov/lakes/invasives/AISLists.aspx?species=ASIATIC_CLAM&status%20%3C%3E%20OBSERVED&groupBy=County) shows that the known distribution of Asiatic clam is limited to 31 locations in 31 different water bodies within the state. There are no known occurrences of Asiatic clam in Iron County, where the Project is located.

## 6.25 Source of Mussel Information

### FERC Comment:

*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 mussels in the area.*

### NSPW Response:

Mussel information presented in the PAD was entirely based on a literature search. WDNR indicated in their March 5, 2021 Study Request filing that there is no recent information regarding freshwater mussels within or near the Project area (WDNR, 2021). A Mussel Study to gather additional information on mussels in the Project vicinity has been proposed in this PSP.

## 6.26 Description of Montreal River

### FERC Comment:

*Section 4.5.3 of the PAD, Invasive Species, reference 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 curly leaf 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."*

NSPW Response:

Invasive species monitoring information received from WDNR is located in Appendix L. The Applicant has proposed to complete an ATIS Study, as included in Appendix B of this PSP, which will provide information on invasive species present within the proposed Project boundary.

## 6.27 Aesthetic Resources

FERC Comment:

*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, including any recreation facilities, activities, or features associated with the falls. Also include a discussion of how proposed project operation would affect flows over the 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 the flow is being stored in the reservoir and when the reservoir is releasing flow to help operate the downstream Saxon Falls and Superior Falls Projects.*

NSPW Response:

The Hurley Area Chamber of Commerce has put together a brochure titled *Waterfalls in and around Iron County, Wisconsin*. The document is accessible online at the following website:

<https://ironcountywi.com/wp-content/uploads/2018/12/WATERFALLS-last-rev-1.pdf>. The document has also been included in Appendix O. The document indicates that Gile Falls has a 15-foot drop, can be accessed on foot, and that a snowmobile bridge crosses the top of the falls. No other amenities are listed. The Minoqua.org webpage titled *Northern Wisconsin Waterfalls* also provides a similar description of Gile Falls. The description also states “*Some directions tell you to take Kokogan Street to Gile Falls Street. However, there are signs posted here saying the trails are closed and large piles of deadwood block the trails.*” The information is available at the following website: <https://www.minocqua.org/things-to-do/outdoor-activities/waterfalls/#gile-falls> .

A review of the Iron County GIS Mapping System shows that the land encompassing the waterfall, including the paths leading to it, are privately owned. Therefore, all public access to the site is dependent upon landowner permission.

A review of streamflow from April 29, 2017 to February 2, 2021 shows that the minimum flow released from the Gile Dam during this timeframe was 12 cfs (20% more than the minimum flow requirement of 10 cfs). This flow should ensure that the falls remain watered throughout the year. Flows of 12 cfs were released 36% of the time while flows exceeding 30 cfs (300% more than the required minimum flow) were released 63% of the time. The mean flow during this timeframe was 113 cfs. Flow information is included in Appendix P.

## 6.28 Gile Flowage Islands

### FERC Comment:

*Section 4.8, Recreation and Land Use, of the PAD describes several recreation islands located in the 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.*

### NSPW Response:

NSPW has proposed a Recreation Study, as included in Appendix F, that will evaluate recreational activities and facilities as well as ownership of the islands. Ownership of all lands within the proposed project boundary, including islands and lands not owned by the Applicant, are shown in Appendix M.

## 7. Literature Cited

American Whitewater. 2021. Comments of American Whitewater on the Pre-Application Document and Study Request. March 17, 2021.

Ayres Associates. 2019. Estimation of Gile Reservoir Storage Benefits for Saxon Falls and Superior Falls Hydro Projects. Montreal River, Iron County, WI and Gogebic County, MI. October 2019.

Friends of the Gile Flowage. 2005. Gile Flowage Littoral Zone Survey, 2005.

[https://docs.google.com/file/d/0B75MzL2b1\\_KCaWtGN0UxSFhKbTQ/edit](https://docs.google.com/file/d/0B75MzL2b1_KCaWtGN0UxSFhKbTQ/edit). Accessed October 6, 2020.

Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, the State of Wisconsin, State Historic Preservation Officer and the State of Michigan, State Historic Preservation Officer, for Managing Historic Properties that may be Affected By New and Amended Licenses Issuing for the Continued Operation of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan. 1993.

Wisconsin Department of Natural Resources, 2005. Fishery Management Plan, Gile Flowage, Iron County, Wisconsin. December 2005.

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