

June 28, 2018

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Ms. Kimberly D. Bose, Secretary
Secretary, Federal Energy Regulatory Commission (FERC)
888 First Street N.E.
Washington, D.C. 20246

Subject: Brainerd Hydroelectric Project (Brainerd Project) (FERC Project No. 2533-061)
Minnesota Department of Natural Resources (MDNR) Comments and Recommendations
On the Pre-Application Document (PAD), FERC-Prepared Scoping Document 1 (SD1),
And MDNR Identification of Issues and Submitted Study Requests

Dear Secretary Bose:

The Minnesota Department of Natural Resources (MDNR) has reviewed and submits Comments and Recommendations on the Pre-Application Document (PAD) and the Federal Energy Regulatory Commission-prepared (FERC-prepared) Scoping Document 1, as well as Study Requests for the new license process for the Brainerd Hydroelectric Project (Project and FERC Project No. 2533) proposed by Brainerd Public Utilities (current project Licensee and proposed Applicant). The documents for review were provided as part of the licensing process for a new license for the Brainerd Hydroelectric Project.

The Project is located on the Mississippi River in the City of Brainerd in Crow Wing County, Minnesota. As identified in the documents submitted for review and comment, the existing Project consists of: (1) a short left embankment; (2) a 256-foot-long powerhouse containing between five and six turbine generators with a totaled installed capacity of between approximately 2.9 megawatts and 3.5 megawatts (MW); (3) a 78-foot-long slide gate section; (4) a 207-foot-long bascule (crest) gate section; (5) a single 20-foot-wide steel Tainter gate; (6) a 200-foot-long right embankment; (7) a 236-foot-long, 2.4-kilovolt (kV) overhead transmission line; (8) a 25-foot-high dam; and a (9) 2,500-acre impoundment. Brainerd Public Utilities proposes to continue operating the project as a run-of-river facility. In Minnesota, this Project and license are only the second of the major hydropower licenses issued by the FERC in the early 1990s which is proposed for a new license (i.e., and the continuing relicensing process).

The MDNR emphasizes the importance of the location of this project on the Mississippi River in Minnesota. The Mississippi River has the largest drainage basin in Minnesota and is one of the most important river resources in both the United States and in the world. The river is a critically valuable and important natural resource of the State of Minnesota, the region, and the Brainerd and surrounding area. In the vicinity of the proposed project, the fisheries resource is important, and the reservoir and area are important for public and private recreational access and uses. The volume and flow of water in the river at this location is also important. The Mississippi River is a state-designated Water Trail.

Based on the Federal Power Act and FERC regulations, the MDNR is the recognized State of Minnesota Resource agency. The MDNR is the Minnesota state agency responsible for and with administrative responsibilities over fisheries and wildlife resources; water use, supply, and regulation; and recreation and aesthetic resources. The MDNR is also responsible for implementing the Fish and Wildlife Coordination Act in Minnesota.

The MDNR and a number of MDNR staff and offices, have been involved with various aspects of the Project for a number of years. The MDNR participated in the FERC licensing of the Project that resulted in the current license. MDNR staff have been part of project operations and project developments related to the existing Project. MDNR staff have been involved with and submitted written comments at the time of the license transfer particularly when Brainerd Public Utilities purchased the project and the hydropower license was transferred. As part of that transfer, the MDNR was also required to inspect the condition of the dam and to submit a report to the Minnesota Legislature as ownership and responsibility were changing from a private hydroelectric project to a publicly-owned and operated hydroelectric project. In 2015 and 2016, MDNR staff reviewed and submitted written comments on the proposed non-capacity license amendment. Also in 2013 and 2017, Brainerd Public Utilities obtained MDNR Joint Public Waters Work and Prohibited Invasive Species permits to repair the dam's spillway apron. MDNR staff attended and participated in the May 16 and May 17, 2018 Environmental Site Review and the Scoping Meeting. This work involved excavation and fill in the river bed. MDNR staff, have also participated with and been part of meetings, consultations, and communications with the Licensee and Applicant and their consultants regarding this relicensing process.

These MDNR comments and recommendations are provided on Brainerd Public Utilities' Preliminary Application Document (PAD); on the sufficiency of the FERC-prepared Scoping Document 1; and include the MDNR's Study Request for a Recreational Use Survey and Study (attached directed to this letter).

As noted to some extent in these comments the MDNR has or knows of a number of other publications, reports, plans, and documentation which support our comments and recommendations. These can, upon request, be provided to the FERC and to the Applicant as the FERC licensing process continues. For example, the MDNR and most of our individual administrative divisions have prepared and adopted vision statements for natural resources management in Minnesota. In addition, the MDNR has previously submitted comprehensive plan and other planning documents to the FERC which the FERC has formally accepted as statewide comprehensive plans.

These comments and recommendations are based on the MDNR's review of the PAD and the Scoping Document provided to us up to this point. The MDNR anticipates to be involved in further review and comment throughout the licensing process, including clarifying and refining the comments being submitted. Therefore, there will likely be additional comments, concerns, and recommendations provided, including license conditions and provisions at much later points in time.

The MDNR is using the opportunity of these comments to reiterate the importance of effective study schedules and study plans, particularly as these comments might be relevant in the event that study seasons may not be limited to one or two years. As is often the situation with the type of studies being done for this project, it is important for the Licensee/Applicant to recognize that the studies and the Study Schedule reflected may take longer than the contemplated and identified start dates and completion dates. This is a factor long-recognized by the FERC and by the resource agencies for studies on hydropower projects in Minnesota and throughout the country. This likely applies to a number of the resource-based studies recommended by the resource agencies, by the FERC, and by the Applicant/Licensee during this process. For example, for the 2018 study season, directions and decisions about schedules for the field and study season have already been determined at this time; studies could reasonably not occur during the 2018 study season. There are also limitations and restrictions about when certain work and studies can and should occur to preserve and protect natural resources. Permits or approvals associated with certain of the studies need to be acquired in connection with studies and this may need to occur a number of weeks or months in advance. The MDNR recommends that both the Applicant and the FERC, to the extent needed, may well need to also revisit this issue to assure having an effective and reasonable timeline for all studies to be done, understanding that complete studies may extend into more than one or two study seasons. After all, the goal and interest should be to have studies that will provide the best data for the resources in the area and upon which licensing decisions are based on complete study results.

At this point in time, the SD1 indicates that the FERC intends to prepare an Environmental Assessment (EA) and not necessarily an Environmental Impact Statement (EIS). The MDNR recommends an EIS for a hydroelectric project of this nature and at this location to completely, accurately, and effectively evaluate the environmental effects associated with the proposed licensing (relicensing) of this project. This is the first relicensing for this facility by Brainerd Public Utilities, they are a newer owner/operator for this facility and based on newer FERC regulations, the license period is now a 40 year term. This is also necessary since the project as originally licensed was privately-owned and is now a public project since its purchase by and transfer to Brainerd Public Utilities.

Regarding the preliminary issues and alternative to be addressed in the EA or EIS, the MDNR recommends the following for effective evaluation of issues:

- Instream Flow Methodology
- Baseline Fisheries study
- Fish Passage
- Botanical and Wildlife Resources including Minnesota State-Listed endangered, threatened, and rare species and the proposed taking of any State-Listed species.
- Recreational Developments and Opportunities
- Invasive and aquatic species and risks to these species

- A discussion of and proposals for protection, mitigation, and enhancement measures to protect and mitigate, and enhance loss to fisheries, wildlife, and other natural resources

Specific comments regarding fish and fisheries issues in the area of the Brainerd Dam and the Brainerd Hydropower Project. Comments also apply to studies or study plans suggested by other entities.

- The MDNR's knowledge is that the Brainerd Dam appears to be the upstream limit of common carp distribution in the Mississippi River in this area. The MDNR recommends that any fisheries baseline studies and evaluations need to develop ways to allow native fish to pass, but exclude common carp. Fisheries studies should determine if common carp or invasive carp could pass through the dam under extreme flows both upstream and downstream of the dam affecting the fishery of the Mississippi River.
- The project boundary and area being studied at this time needs to be and should be extended upstream to near the mouth of the Pine River and downstream effects need to be included and evaluated. The first non-impounded riffle habitat occurs near the confluence with the Pine River. Effects of the dam on the fish community both upstream and downstream of the dam need to be analyzed and evaluated including biological connectivity and alteration of habitat.
- Regarding the extent of existing technical information, the applicant should be aware there are existing fish population assessments completed by both the MDNR and the Minnesota Pollution Control Agency (MPCA) covering areas both upstream and downstream of the dam. An MDNR fish population assessment was collected in 2007 and the MPCA collected a fish population assessment in 2013.
- The Muskellunge population in the area of the dam is important and requires an effective and sufficient evaluation and analysis. The reach downstream of the dam supports a native, genetically unique, naturally reproducing Muskellunge population.

The Muskellunge population upstream of the dam is being enhanced by stocking by the MDNR since 2006 (i.e., there was also limited stocking of Muskellunge above dam in 1960 and through the 1990s). The MDNR anticipates there is downstream movement by Muskellunge out of the reservoir through the dam. One marked stocked muskellunge was captured by the MDNR downstream of the dam in July, 2014, the year following its stocking above the dam in the Fall, 2013. Prior to stocking, Muskellunge above the Brainerd Dam were rare, but have been more common prior to dam construction.

The MDNR is aware of and provides information regarding a number of technical documents which discuss more specific details and documentation about the genetics and population status of Muskellunge below the Brainerd dam. There is an assessment of population characteristics

and genetic origin of Muskellunge in a section of the Mississippi River, Minnesota (see K. Kapuscinski, and coeditors, Muskellunge Management: Fifty Years of Cooperation among Anglers, Scientists, and Fisheries Biologists by the American Fisheries Society, Symposium 85, Pages 565-582).

- The MDNR has repeatedly and consistently submitted statements and written comments to proposed applicants, licensees, and to the FERC regarding ineffective desktop analyses and that full on-site entrainment studies are necessary and required. This is particularly the situation for this proposed project which is not a new hydropower project and due to recent FERC decision, we know the relicensing will be for a standard 40 year period of time. The proposed desktop fish entrainment, mortality study, and fish protection plan is not sufficient. Brainerd Public Utilities should provide specific information about the extent of protection currently in effect. The MDNR knows that at this time in the process, the size of the trashracks is not a study issue but rather handled as part of license conditions. Even with this knowledge, the MDNR recommends that any fish entrainment and mortality studies should include the option of a one-inch angled trash rack. Sometimes, the U.S. Fish and Wildlife Service (USFWS) may also request a size of one-inch spaced angled trash racks to provide a measure of fish protection and reduce entrainment of at least larger fish. Fish entrainment and fish mortality studies need to include and address intake velocity which can be a significant issue with fish impingement at hydropower dams and projects. In addition, there are Minnesota state laws and rules for compensations for the taking and loss of the fishery resource. These rules provide for compensation at a level and extent different from the American Fisheries Society compensation levels often used by the FERC staff. Minnesota laws and rules must be followed by the Applicant and the Licensee in this matter.
- The Applicant needs to revise their plans and provide safe, legal shore fishing access on the right bank below the dam in the vicinity of the portage trail. Fishing and angling is both a fisheries issue and a recreation issue. The MDNR knows that many anglers already shorefish in this area, passing or avoiding current no trespassing signs on the access road off of Riverside.
- The MDNR knows and provides that a fish kill of smallmouth bass occurred during snowmelt in the late winter or spring in approximately 2006 to 2007 with the dead/dying fish appearing to originate from immediately below the dam. The MDNR is not aware if an actual cause for this fish kill was determined. At the time, water samples and fish specimens were examined by MDNR fish pathologists.
- The applicant indicates there are no plans for any changes in the project plans or operations. This is not sufficient. As the licensing process continues, the MDNR anticipates and expects the Applicant to have and to present proposals for protection, mitigation, and enhancement for the effects on natural resources.

Additional specific comments regarding recreations applicable to the PAD and/or to SD1.

- The section in the documents on trails should also include the French Rapids trails and the Mississippi Northwoods trails.
- Although albeit more of an issue for licensing of this proposed project and not specifically related to studies at this time, the MDNR strongly recommends that Brainerd Public Utilities work with the MDNR on early detection of Aquatic Invasive Species on the Mississippi River in the area of the Brainerd Hydropower Project. This will be important to avoid and prevent the spread of Aquatic Invasive Species.

The MDNR fully recognizes that while some of the comments in this submittal may address matters related to future points in the FERC licensing process, we are identifying some of these issues for consideration both now and may also raise these issues as the licensing process continues.

Thank you for the continued opportunity up to this point to review and provide the MDNR's comments and recommendations and study request on the proposed relicensing of the Brainerd Public Utilities Hydroelectric Project. The MDNR continues to anticipate to remain involved in further review and comment throughout the licensing process, and may also continue to be involved in participation in some of the studies being prepared. The agency will likely provide additional comments, concerns, and recommendations throughout this licensing process.

Sincerely,



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Study Request Criteria – MDNR Requested Recreation Use Survey and Study (June 28, 2018)

a) Goals and Objectives

Very little is known definitively about resource use in the Mississippi River stretches influenced by this facility. Currently, recreation use at the dam is poorly documented. Information on the dam's effects on recreational use of the river is limited.

The goals of this study are:

1. to establish comparable usage information for flowing and impounded stretches of the river;
2. to identify facilities needed in river stretches influenced by the dam to foster similar recreation use as non-dammed stretches;
3. to identify limiting factors to river recreation access that the dam may be creating;
4. identify how the fish species assemblage and recreation is affected by the dam (i.e., through creel/survey design);
5. determine the importance of user point of origin and destination on use of the river in the project vicinity;
6. to allow a more uniform use of flowing river recreation upstream, within the project area and downstream, to decrease user conflicts on heavily used river sections not impacted by the dam, and,
7. identify ways in which the dam's negative effects on flowing river recreation may be mitigated.

Study Objectives are to gather use data consisting of participation (# of people) and type of recreation (i.e., canoe, kayak, tube, and/or fishing) on flowing and impounded stretches of the Mississippi River. Also, the Study aims to survey users on where they use the river; frequency of use; and for what types of activities; and to survey users on what facilitates and creates a barrier to use of flowing and impounded river stretches.

b) Information to be Obtained

The Recreation Use Study will gather use data consisting of participation (# of people) and type of recreation (i.e., canoe, kayak, tube, fishing, and number and species of fish caught/creeled) on flowing stretches of the river above and below the project. It will also survey users on where they use the river; frequency of use; and for what types of activities; and survey users on what facilitates and creates a barrier to use of flowing and impounded river stretches. Suggested survey topics include public's knowledge on how to access river; "why each section gets used or not?"; and "what types of uses are more common and why?" These are example questions that we propose should be answered through this Study. We also intend that the Study will allow us to look at use above and below and dam and compare to with non-dammed sections of the river.

c) Relevant Resource Management Goals

Provide a base line of use information to identify how flowing river recreation is being concentrated in a few areas and under used in others due to the influence of the reservoir and dam. A dam and reservoir on flowing sections of the river create barriers to river recreation by

creating slack water in the reservoir that can be impossible to cross for tubers to challenging with windy conditions for some paddlers. Poor access to flowing river stretches due to the barriers created by the dam and reservoir that would provide similar experiences end up concentrating users to a few flowing stretches without these barriers.

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

Existing information is limited or nonexistent. The Recreation Use Study would help identify why non-dam sections of the river are favored? What facilities or user knowledge may influence the use? What can be done to mitigate the impacts the dam has on the public's use of the flowing public waters of the Mississippi River. In Minnesota only watercraft greater than ten feet need to be registered. There are a lot of non-motorized watercraft under ten feet that are exempt from the registration requirement. Even with this exemption, the numbers of kayaks and paddleboards represent the largest increasing classification of boating registrations in the state.

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

The Brainerd Hydroelectric Project and the reservoir it creates are barriers to flowing river recreation on the Mississippi River. The dam itself creates the need for exit, portage, and entry points, each of which can prevent users with differing physical abilities from recreating on the river. Surveying river users to determine why they favor certain stretches will help identify ways the recreation facilities at the dam can be modified to increase the public's access to flowing river recreation. The reservoirs create a different barrier. The slack water created is not favorable and is often impassible for tubers; and the distance, wind, and waves can be challenging for many paddle users. This impacts more than just the area around the dam itself. The barrier it creates renders this section of river unusable or most certainly unfavorable if users are unable to get off the river before the reservoir. The survey will help identify why various sections of the river are either highly used or under used.

f) 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.

Propose public surveys of river users be done on site for several week ends including at least one holiday throughout the summer. The river up- and downstream from the project could be broken into approximately three sections (upstream; facility, including reservoir; and downstream). Surveys would be done for the same duration at the same time at each location. Information collected at these three study sections should include catch (creel) data for any anglers surveyed. The MDNR Fisheries Section has extensive experience designing and implementing fisheries creel surveys (which is a segment of recreation) and should be consulted for scoping this aspect of the Recreational Survey and Study.

A complimentary on-line survey could be done for interested parties who frequent the river but may not be using it at the time of the survey with solicitation through local public advertisements. Surveys of this type are common, and standard practices and methodologies would be followed to gather the information and guide its analysis.

g) 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.

Cost and effort to accomplish this work would not be significant compared to the loss of public recreation use that hydroelectric facilities create. There are numerous colleges and universities in Minnesota that have recreation programs that could be used to facilitate this study. By beginning to identify the impacts the hydroelectric plants have on recreational use of the Mississippi River, the MDNR, Brainerd Hydroelectric, and the FERC can identify ways in which these impacts can be mitigated. The end goal is to provide the public with access to the river's publicly-owned resources in areas where the hydroelectric plant operations currently limit or prevent public use.