

**BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

APPLICATION FOR PRELIMINARY PERMIT

MISSISSIPPI LOCK & DAM #9 WATER POWER PROJECT



FFP KANSAS 1 LLC d/b/a FFP LOCK AND DAM No. 9

**33 Commercial Street
Gloucester, MA 01930**

November, 2008

VERIFICATION STATEMENT

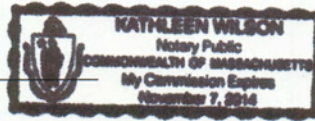
This application for a preliminary permit for the Mississippi River Lock and Dam #9 Water Power Project is executed in the State of Massachusetts, Essex county.

Ramya Swaminathan, VP, PROJECT DEVELOPMENT of Free Flow Power Corporation, the Managing Member of FFP Kansas 1, LLC d/b/a FFP Lock and Dam No. 9, being duly sworn, deposes and says that the contents of this Preliminary Permit Application are true to the best of her knowledge or belief. The undersigned Applicant has signed the application on this 21st day of November, 2008.

By: Ramya Swaminathan
Ramya Swaminathan, VP Project Development
Free Flow Power Corporation, the Managing Member of FFP Kansas 1, LLC d/b/a FFP Lock and Dam No. 9

Subscribed and sworn before me, a Notary Public of the State of Massachusetts this 21st day of November, 2008.

My commission expires on _____



By: _____

**BEFORE THE UNITED STATES FEDERAL ENERGY REGULATORY COMMISSION
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1. Statement of Application

FFP Kansas 1, LLC d/b/a FFP Lock and Dam No. 9 applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed Mississippi River Lock and Dam #9 Water Power Project, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of licensing for the project under Part 1 of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for license.

2. The location of the proposed project is:

State:	Wisconsin and Iowa
Counties:	Crawford, WI and Allamakee, IA
Nearby Town:	Lynxville, WI
Body of Water:	Mississippi River

3. The exact name, business address, and telephone number of the applicant is:

FFP Kansas 1, LLC d/b/a FFP Lock and Dam No. 9
33 Commercial Street
Gloucester, MA 01930
978.283.2822

The exact name, address, and telephone number of persons authorized to act as agent for the applicant in this application are:

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Free Flow Power Corporation
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Gloucester, MA 01930
978.252.7631
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Ramya Swaminathan
VP, Project Development
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Gloucester, MA 01930
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Jason Hines
Free Flow Power Corporation
1000 Harris Avenue, Ste 21
Bellingham, WA 98225
978.252.7112
jhines@free-flow-power.com

4. Preference under Section 7(a) of the Federal Power Act

FFP Kansas 1, LLC d/b/a FFP Lock and Dam No. 9 is a domestic limited liability company, and is not claiming preference under the section 7(a) of the Federal Power Act.

5. Term of Permit

The proposed term of the requested permit is 36 months.

6. Existing Dams or Other Project Facilities

The project proposes use of the existing Mississippi Lock and Dam #9 at river mile 647.9. Lock and Dam #9 is owned and operated by the US Army Corps and Engineers. The address for the local office is:

US Army Corps of Engineers
RR 1 Box 119
Lynxville, WI 54626-8793

SECTION 4.32(a)

- 1. Identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project;**

FFP Kansas 1, LLC d/b/a FFP Lock and Dam No. 9 is the only entity that has or intends to obtain and will maintain any proprietary rights necessary to construct, operate, or maintain the proposed property.

- 2. Identify:**

(i) Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located:

The project would span the Mississippi River and be located in the following counties:

Crawford County
225 North Beaumont Road
Prairie du Chien, WI 53821

Allamakee County
110 Allamakee Street
Waukon, IA 52172

The following Federal facility would be utilized by the proposed project:

US Army Corps of Engineers
Mississippi River Lock and Dam #9
RR 1 Box 119
Lynxville, WI 54626-8793

(ii) Every city, town, or similar local political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:

City of Lynxville
362 Spring Street
Lynxville, WI 54626-7134

(B) That has a population of 5,000 or more people and is located within 15 miles of the project dam:

City of Prairie du Chien
211 South Main
PO Box 326
Prairie du Chien, WI 53821

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

The proposed project would use an existing dam owned and operated by the US Army Corps of Engineers as stated above. The dam is located at Mississippi river mile 647.9.

(iv) Every other political subdivision in the general area of the project that there is a reason to believe would likely be interested in, or affected by, the application;

The proposed project is located within the following congressional districts;

Crawford County, WI
District #3, Ron Kind

Allamakee County, IA
District #4, Tom Latham

(v) All Indian Tribes that may be affected by the project;

There are no Indian Tribes within 100 miles of the proposed project boundary.

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EXHIBIT 1 – GENERAL DESCRIPTION

1. General Information

The proposed Mississippi River Lock and Dam #9 Water Power Project will be located on the Mississippi River in Crawford County Wisconsin and Allamakee County, Iowa approximately 3 miles below the town of Lynxville, WI. The Project will utilize the existing lock and dam that is owned and operated by the US Army Corps of Engineers (USACE), St. Louis District. Lock and Dam #9 is a navigation structure that is part of the USACE Nine Foot Navigation Project and is described in the following table:

Mississippi Lock and Dam #9	
Year Placed in Service	1937
Location	Near Lynxville, WI
Water Body	Mississippi River
River Mile	647.9
Longitude	91°06'15"W
Latitude	43°12'46"N
Length of Movable Dam	811 feet
Number of Roller Gates	5
Number of Tainter Gates	8
Lock Length	600 feet
Lock Lift	4 feet
Drainage Area	65,000 sq miles
Upper Pool Elevation	620 feet msl
Lower Pool Elevation	611 feet msl

The proposed Lock & Dam #9 Water Power Project is envisioned to utilize a combination of modular Very Low Head (VLH) turbine generators and hydrokinetic turbine generators to extract the energy that is currently dissipated at the Lock and Dam drop. The VLH units would be integrated into the movable dam section of the existing structure and the hydrokinetic units would be deployed in the higher velocity sections of river channel adjacent to the existing moveable dam. The placement and mounting of the generating units will take into account the navigational, flood control, and recreational purposes of the Lock and Dam as well as the operational and management parameters which are currently in place and being used by the USACE.

2. Reservoirs

The Mississippi Lock and Dam #9 forms Pool 9, the lower portion of which is known as Lake Winneshiek. Pool 9 extends upstream from Lock and Dam #9, near Harper's Ferry, IA to Lock and Dam #6, near Genoa, WI. It spans river miles 648 through 679 giving a total of 31 miles. Pool 9 is part of the USACE Nine Foot Navigation Project and runs through the Upper Mississippi River National Wildlife and Fish Refuge. Lake Winneshiek is the portion of Pool 9 impounded between Lock and Dam #9 and 4 miles south of the city of Lansing, IA and encompasses 6,000 acres.

The dam is operated by USACE in a way that maintains the nine foot navigation channel at all times. Due to this operational regime, Pool 9 has no available storage capacity that can be used for hydro generation purposes. During flooding and high water events, the USACE operates the dam gates to manage pool level which would preclude some generation during these periods.

3. Transmission Lines

The applicant has identified existing transmission infrastructure in the proposed project area. These existing transmission elements will be evaluated during the Permit period through field investigations and discussions with the local utility. It is anticipated that a small substation and a single short transmission line will be associated with the project to provide distribution voltage level (<69 kV) output to the selected utility tie in point. Both submarine and overhead options will be considered during the evaluation process.

4. Turbines and Generators

- The estimated average annual energy production is 68.4 GWh.
- The total installed capacity of all turbine generator units is 13.4 MW.
- The hydraulic head used for estimating capacity and energy output for the conventional (VLH) turbines is 6 feet.
- It is estimated that 25 VLH units rated at 550 horsepower each and 80 hydrokinetic units rated at 50 horsepower each will be installed at the project.
- All the turbine generators will be newly manufactured for the project.

5. Lands Within The United States

The proposed Lock and Dam #9 Water Power Project will be located on Federal property owned by the United States Army Corps of Engineers. The majority of the project, specifically the conventional VLH generation equipment will be located entirely within the bounds of the Lock and Dam property. Two elements of the project will likely be located on non-Federal land; the transmission interconnection which will be next to the nearby utility infrastructure and the hydrokinetic turbine generators will be located within the river channel adjacent to the Lock and Dam structure.

6. Development, Conservation, and Utilization of Water Resource

The proposed Mississippi Lock and Dam # 9 Water Power Project involves the environmentally responsible, low impact development and utilization of a currently unused source of renewable energy which will provide a clean source of electrical energy to help meet the region's energy and capacity needs.

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EXHIBIT 2 – DESCRIPTION OF STUDIES

There are only a few known sources of available engineering and studies at the site of Mississippi Lock and Dam #9 Water Power Project. The first of which is publicly available information gathered by developers seeking proposed hydro development. Also available is a large amount of historical information, photographs, boring data and engineering records that were completed and used during the 1930's for dam and lock construction. Detailed historic hydrology information is available for the project site.

Upon issuance of a Preliminary Permit, more detailed studies will be conducted to determine the ultimate feasibility of the Project and potentially support the preparation of an application for License, as detailed below.

1. General Description of Proposed Studies

The following studies are planned:

(i) Description of proposed studies

- a) Information Review: Publicly available general information will be compiled and reviewed. This will include engineering and "as built" records from the original construction of the Lock and Dam, local survey data, utility distribution and transmission information, material previously submitted to FERC for earlier development initiatives, as well as any studies or surveys that have been done concerning the Lock and Dam structure, the upstream pool, and the reach of the river near the project.
- b) Hydrologic Studies: Publicly available USGS and USACE gaging station record data will be used to develop detailed daily stream flow forecasts for the Mississippi River at the project site. USACE operational information for the gates and locks will be incorporated to determine actual flows available for generation. Historic USACE data records for upper and lower pool elevations, as well as field data will be gathered and used to develop forecast for actual head data for the proposed turbine locations. A combination flow and stage data will be used to model flow velocities and patterns at the site.
- c) Develop and Review Alternatives in project layout and sizing to maximize the power generated, minimize environmental impact and otherwise select the optimal project to ensure the best possible use of the resource.

- d) Preliminary Engineering and Design The information generated in the preceding studies will be incorporated into an optimized design suitable for a definitive estimate of project cost and feasibility.
- e) Energy Generation and Cost Estimates: The flow, velocity, and head data created in Task (b) coupled with the selected project design alternatives from Tasks (c) and (d) will allow energy generation to be modeled for the project. Daily forecast energy generation will be determined and typical, wet, and dry year generation estimates will be made. Initial budgetary development and construction costs will be developed. A tentative permitting and construction schedule will be defined.
- f) Feasibility Analysis: The previous work will be compiled into a final feasibility analysis along with data gathered on then-current and forecast wholesale power prices, financing costs, and O&M costs to determine the economic feasibility of the project.

If the result of the feasibility analysis is positive, the following activities are envisioned to take place during the remaining preliminary permit term to support Licensing and development of the project:

- g) Informal Stakeholder Consultation and Discussions
- h) Develop Notice of Intent (NOI)
- i) Develop Pre-Application Document (PAD)
- j) Begin Scoping Activities

It is anticipated tasks (a) through (f) will be completed within 12 months of the permit issuance. Tasks (g) through (j), if undertaken, will be performed during the remaining permit term.

(ii) New Road Construction

Access for all field surveys will be via existing roads. No new roads are required for the proposed project.

2. New Dam Construction

The project will not require construction of any type of dam as the facility will be located at the existing Mississippi Lock and Dam #9.

3. Waiver

The applicant does not request the Commission to waive the field study requirement.

4. Statement of Cost and Financing

(i) Estimated Costs:

The total cost for completing tasks (a) through (f) as outlined above is estimated to be \$100,000. If task (g) through (j) are undertaken the total costs is estimated to not exceed \$500,000.

(ii) Expected Sources of Financing:

The studies will be financed by the applicant.

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EXHIBIT 3 – MAPS

1. General Location of Proposed Project

Attached are maps showing the vicinity, location, the project layout, and the project boundary for the proposed Mississippi River Lock and Dam #9 Water Power Project.

2. Project Features

The probable locations of the primary project features is shown in Map 3 - Project Layout.

3. Proposed Boundary

The proposed project boundary is shown on Map 4.

4. National Wild and Scenic Rivers Systems

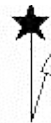
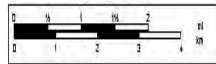
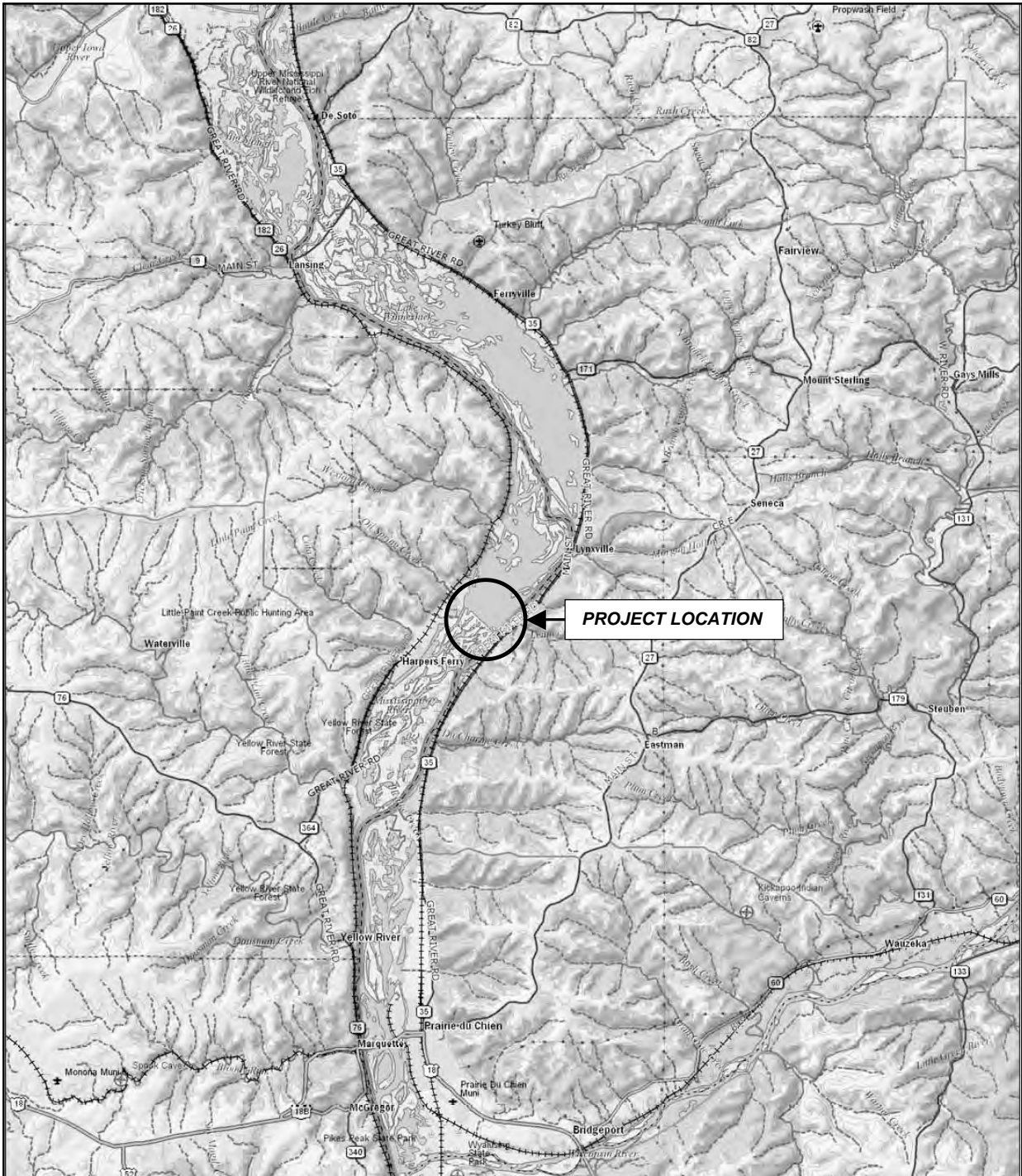
No areas in the project vicinity are included (or are known to have been designated for study for inclusion) in the National Wild and Scenic Rivers System.

5. Designated Wilderness Areas

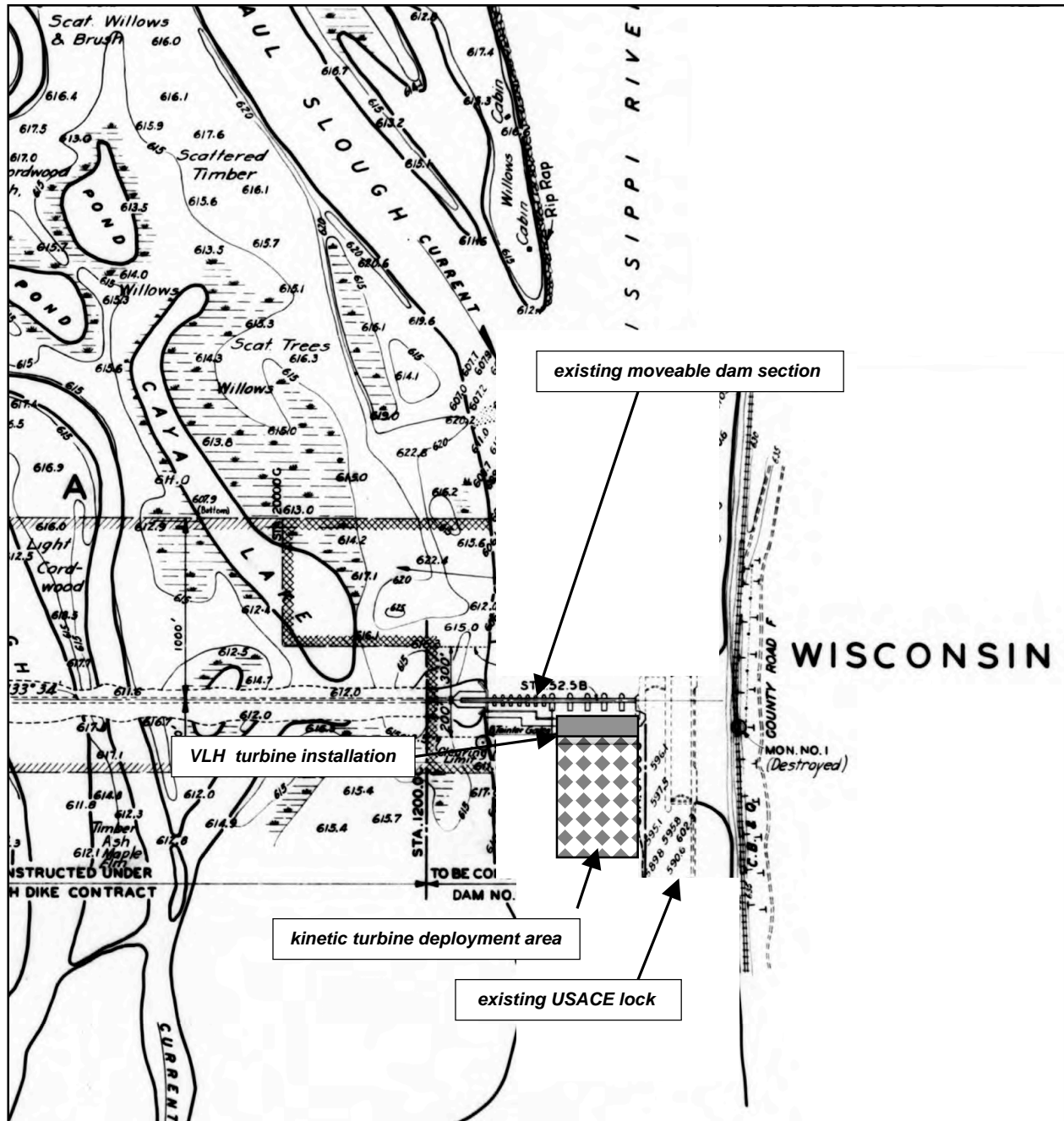
No areas within the project boundary have been designated as wilderness area. No areas within the project boundary are known to be recommended for designation as wilderness area or designated as wilderness study area.



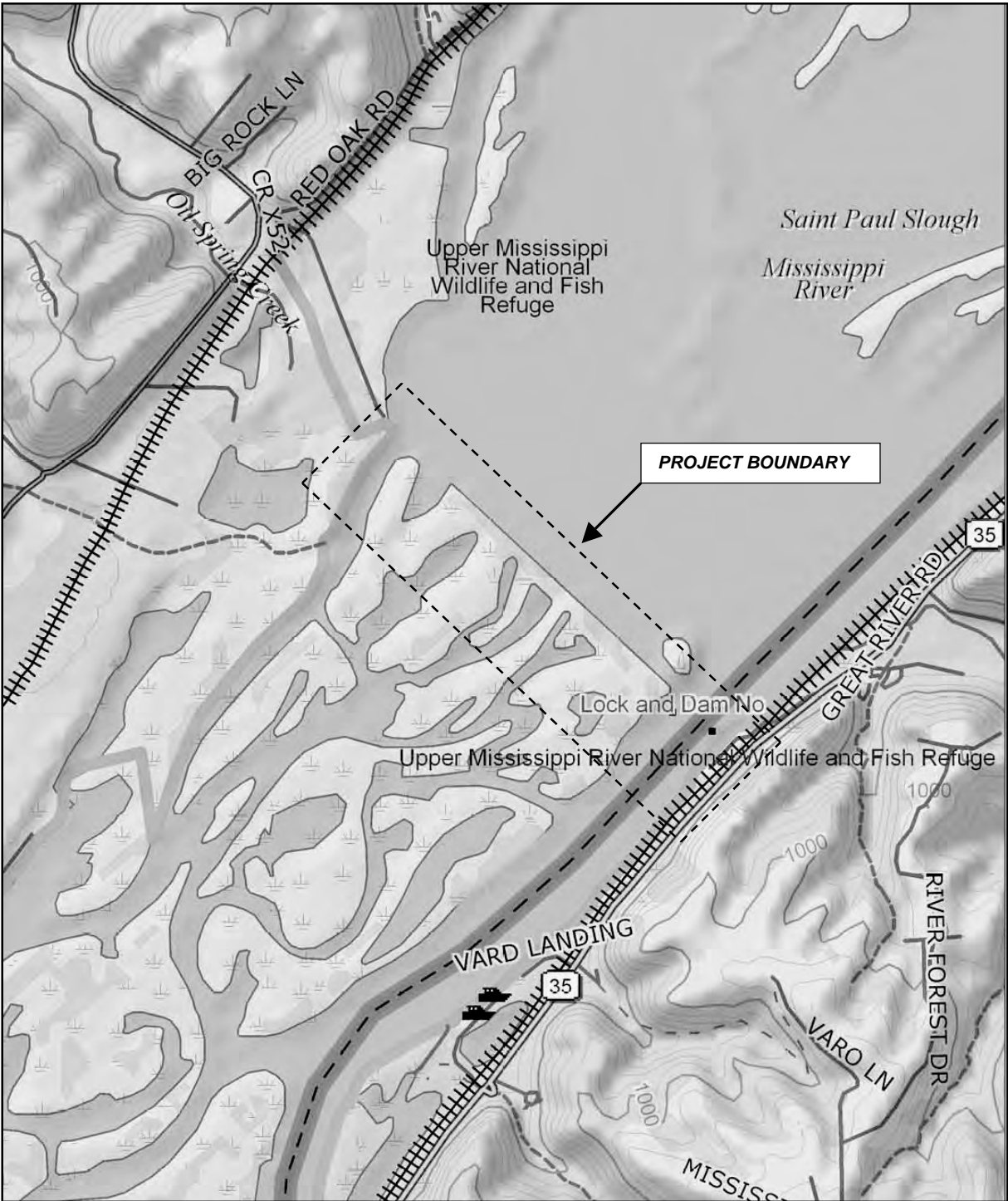
MISSISSIPPI RIVER LOCK & DAM #9 WATER POWER PROJECT
MAP 1 - PROJECT VICINITY



MISSISSIPPI RIVER LOCK & DAM #9 WATER POWER PROJECT
MAP 2 - PROJECT LOCATION



MISSISSIPPI RIVER LOCK & DAM #9 WATER POWER PROJECT
MAP 3 - PROJECT LAYOUT



MISSISSIPPI RIVER LOCK & DAM #9 WATER POWER PROJECT
MAP 4 - PROJECT BOUNDARY

LAND DESCRIPTION

**Non-Public Land States
(and Non-Rectangular Survey System Lands in Public Land States)**

1. STATE Minnesota and Wisconsin 2. FERC PROJECT NO. _____

3. FEDERAL RESERVATION: Mississippi Lock and Dam #9

4. FEDERAL LAND HOLDING AGENCY: US Army Corps of Engineers

5. Counties: Allamakee, IA and Crawford, WI

6. Check one:
 License
 Preliminary Permit

Check one:
 Pending
 Issued

If preliminary permit is issued, give expiration date: n/a

7. Federal Tract(s)
Identification

8. Exhibit Sheet Number(s)
or Letter(s)

Mississippi Lock and Dam #9

Exhibit 3 – Maps 1 thru 4

Latitude 43°12'46"N - Longitude 91°06'15"W

9. contact's name Ramya Swaminathan

telephone no. (978-226-0336)

date submitted November 12, 2008

This information is necessary for the Federal Energy Regulatory Commission to discharge its responsibilities under Section 24 of the Federal Power Act.

Document Content(s)

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