

**Cornell Hydroelectric Project
FERC Project No. 2639**

**Exhibit D
Project Cost and Financing**

Final License Application

Prepared for



Prepared by



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Table 4.5-1 Corrected on December 10, 2022

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LIST OF ABBREVIATIONS

Applicant	Northern States Power Company-a Wisconsin corporation
Cornell Project	Cornell Hydroelectric Project
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
MWh	megawatt hour
NSPW	Northern States Power Company-a Wisconsin corporation

1. Original Cost for Initial License

Not applicable; this application is not for an initial license.

2. Amount Payable for Section 14 Takeover

The Cornell Hydroelectric Project (Cornell Project) is owned and operated by Northern States Power Company, a Wisconsin corporation (NSPW, Applicant). The estimated net book value of the Cornell Project was calculated at \$2,567,848 as of December 31, 2020. The Applicant has not identified any severance damages that would result if the Cornell Project were taken over.

3. Estimated Cost for Proposed New Development

NSPW is not proposing any capacity related developments or any expansion of any land or water rights as a consequence of this application.

4. Annual Cost of Total Project as Proposed

4.1 Cost of Capital

4.1.1 Existing Project Valuation

As of December 31, 2020, the net book value for the Cornell Project was calculated at \$2,567,848 and the gross book value was calculated at \$22,369,116. This figure includes land and land rights, structures and improvements, waterway improvements, generating equipment, accessories, and miscellaneous equipment.

4.1.2 Cost of Capital

NSPW's estimated short-term cost of capital is 3.35% and long-term cost of capital is 4.58%. Based on a gross book value of \$22,369,116, the cost of capital associated with Cornell Project ownership is estimated at \$1,024,506.

4.2 State, Local, and Federal Taxes

Property taxes at the Cornell Project were \$123,200 per year from 2016 through 2020.

4.3 Depreciation or Amortization

For calendar year 2020, the total allocated depreciation for the Cornell Project was estimated at \$19,801,268.

4.4 Operation and Maintenance Expenses

Average operation and maintenance expenses for the Cornell Project are provided in **Table 4.4-1**. The average cost of operation and maintenance was \$465,828 per year over the period of 2016 to 2020.

Table 4.4-1: Cornell Project Operation and Maintenance Expenses (2016-2020) (NSPW, 2021c)

Cost	2016	2017	2018	2019	2020	2016-2020 Mean
Total O&M Costs	\$398,948	\$462,846	\$418,542	\$510,712	\$538,091	\$465,828
Employee Expenses	\$1,105*	\$1,282*	\$814	\$1,997	\$1,254	\$1,290
Labor	\$143,869*	\$166,912*	\$138,646	\$210,707	\$179,802	\$167,987
Materials & Commodities	\$41,335*	\$47,955*	\$29,654	\$77,140	\$45,236	\$48,264
Miscellaneous	\$182,271*	\$211,465*	\$200,299	\$178,307	\$291,793	\$212,827
Outside Services	\$30,368*	\$35,232*	\$49,129	\$42,560	\$20,007	\$34,459

*calculated using 2018 to 2020 mean percentage for each expense category

4.5 Capital for Proposed Environmental Measures

Capital and annual maintenance costs for proposed environmental mitigation measures are shown in Table 4.5-1, below.

Table 4.5-1: Costs for Proposed Environmental Mitigation Measures

Resource Area	Proposed Environmental Mitigation Measure*	Estimated Costs	
		2021 Dollars (Capital)	Annual Maintenance
Aquatic Resources	Operations and Compliance Monitoring Plan	\$25,000	\$5,000 (Deviation Reporting)
Botanical Resources (Aquatic & Terrestrial)	Aquatic and Terrestrial Invasive Species Monitoring Plan	\$40,000	\$0
Botanical Resources (Aquatic & Terrestrial)	Biennial Aquatic and Terrestrial Invasive Species Surveys	\$0	\$35,000 per event
Aquatic Resources	Dewatering Panel for Flashboard Replacement	\$125,000	Negligible
Fish and Wildlife Resources	Sturgeon Mitigation Measures Yet To Be Determined (TBD)	TBD	TBD
Historical/Archaeological and Aquatic Resources	Conduct Shoreline Surveys (Erosion & Archaeological / Historical) Every Five Years	\$0	\$25,000 per event
Historic/Archaeological Resources	Annual Reporting Required by HPMP	\$0	\$2,000
Recreation Resources	Develop Recreation Plan	\$40,000	\$0
Recreation Resources	Conduct Recreation Inventory and Assessment Every Five Years	\$0	\$25,000
Recreation Resources	Improvements to 266 th St. Access	\$50,000	\$5,000
Recreation Resources	Improvements to Portage Trail and Tailwater Fishing Area (West Side)	\$10,000	\$1,000

Resource Area	Proposed Environmental Mitigation Measure*	Estimated Costs	
		2021 Dollars (Capital)	Annual Maintenance
Recreation Resources	Improvements to Tailwater Fishing Area (East Side)	\$50,000	\$16,000
Recreation Resources	Improvements to City of Cornell Boat Landing	\$65,500	\$20,100
Recreation Resources	Improvements to City of Cornell Mill Yard Park	\$125,000	\$7,000

*See Exhibit E for more detailed description of individual environmental mitigation measures.

5. Estimated Value of Project Power

The annual value of project power is estimated based on the cost of obtaining equivalent power from an alternative source (for the purpose of this NSPW determined that alternative source would be based on what we would purchase at the Midcontinent Independent System Operator market to support our load). The weighted average cost of replacement for both on-peak of \$31.37 and off-peak of \$22.52, provides for an average rate of \$27.32 per megawatt hour (MWh). Assuming an annual energy demand of 117,310 MWh, the value of project power is \$3,204,909.

6. Financing and Annual Revenues Available to Meet Costs

NSPW has ample annual revenues and financing options to meet its cost of operation for the term of a new license.

7. Costs to Develop the License Application

The cost for NSPW to relicense under the Traditional Licensing Process through the filing of the FLA is \$400,000.

8. Estimated Value of On-Peak Power and Off-Peak Power

The Cornell Project is an NSPW asset and is under the oversight of the Public Service Commission of Wisconsin. As shown in **Table 8-1**, the estimated average annual value of on-peak generation and off-peak generation is \$1,994,568 and \$1,203,775, respectively. The average value of both on-peak and off-peak use is \$27.26 per MWh. Values of on-peak and off-peak generation are based on average historical data from 2016-2020. Values can vary depending upon market conditions, and therefore should only be used as an approximation of the value of power.

Table 8-1: Cornell Project Estimated Average Gross Revenue from On-Peak and Off-Peak Generation (2016-2020)

Description	Energy (MWh)	Nominal Market Price (\$/MWh)	Average Gross Annual Revenue
Average Annual On-Peak Generation	63,634	\$31.34	\$1,994,568
Average Annual Off-Peak Generation	53,676	\$22.43	\$1,203,775
Average Combined On-Peak and Off-Peak Generation	117,310	\$27.26	\$3,198,343

9. Estimated Change in Project Generation and Value of Project Power Due to Changes in Project Operations

NSPW is not proposing any changes that will affect power generation at the Cornell Project. The average annual amount and value of project power for the term of the new license is projected to remain the same unless modified project operations are required upon expiration of the Lower Chippewa River Settlement Agreement. If modified project operations are required, the average annual amount and value of project should be analyzed at the time of expiration.

10. List of References

- Midcontinent Independent System Operator (<https://www.misoenergy.org/>).