BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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In the Matter of the Application of Minnesota Power for a Certificate of Need for a High Voltage Transmission Line for the HVDC Modernization Project in Hermantown, Saint Louis County

In the Matter of the Application of Minnesota Power for a Route Permit for a High Voltage Transmission Line for the HVDC Modernization Project in Hermantown, Saint Louis County

ISSUE DATE: October 25, 2024

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ORDER GRANTING CERTIFICATE OF NEED AND ISSUING ROUTE PERMIT

PROCEDURAL HISTORY

On June 1, 2023, Minnesota Power (or the Company) filed a combined application for a certificate of need and route permit for a high-voltage direct-current (HVDC) modernization project in Hermantown.

On November 29, 2023, the Commission referred the matter to the Office of Administrative Hearings for contested case proceedings.[1]

On December 1, 2023, the Energy Environmental Review and Analysis staff at the Department of Commerce (the EERA) issued its scope of the Environmental Assessment on the proposed project and issued a revised scope on December 27.

On February 29, 2024, the Energy Environmental Review and Analysis staff at the Department of Commerce (the EERA) issued its Environmental Assessment on the proposed project.

On March 13, 2024, the Administrative Law Judge, Jim Mortenson, held joint public hearings by video conference, telephone, and in person.

[1] The Commission found the applications complete on August 8, 2023, and initially authorized development of the record using informal review proceedings under Minn. R. 7829.1200 and 7850.2800; the Commission simultaneously authorized joint review of the applications under Minn. R. 7849.1900. After American Transmission Company LLC proposed an alternative to the Project for record development, the Commission referred the matter to the Office of Administrative Hearings for contested case proceedings.

On March 19, 2024, the ALJ held an evidentiary hearing in the Large Hearing room at the Public Utilities Commission in St. Paul.

On June 21, 2024, the Administrative Law Judge issued his Findings of Fact, Conclusions of Law, and Recommendations (ALJ's Report).

By July 1, 2024, the following entities filed exceptions to the ALJ's Report: the EERA; American Transmission Company (ATC); Minnesota Power; and the Large Power Intervenors (LPI).

On August 1, 2024, the Commission met to consider the matter and the record closed under Minn. Stat. § 14.61, subd. 2.

FINDINGS AND CONCLUSIONS

I. Minnesota Power's Filing

A. The Proposed Project

Minnesota Power has proposed an HVDC modernization project to upgrade existing terminals connected to the Company's 465-mile-long Square Butte HVDC 550 MW transmission line. The project would interconnect the upgraded HVDC terminals to the existing alternating-current (AC) transmission system. The purpose is to construct new HVDC converter stations and interconnection facilities to replace aging infrastructure and mitigate system outages due to increasing converter equipment failures.

The project would include: a new HVDC converter station; a new 345 kV St. Louis County Substation in Hermantown; a new less than one-mile 345 kV transmission line to connect the new converter station to the new St. Louis County Substation; and a new less than one-mile double-circuit 230 kV transmission line to connect the new St. Louis County Substation to the Arrowhead Substation, to which the current HVDC converter station is interconnected.

These types of substation and terminal facilities are typically described as "associated facilities," but in this case, the Company explained that the substations and terminals are the primary and most significant facilities proposed, and the short transmission line segments are ancillary facilities for interconnecting the HVDC terminal to the substation facilities.

The Company stated that the project is intended to update aging electric infrastructure, increase ongoing energy transfer capability, and enhance regional grid reliability and resiliency, consistent with Minnesota's decarbonization goals. Primarily, the project is aimed at leveraging existing infrastructure to improve the reliability and resiliency of the transmission system and prepare for the clean-energy future by installing modern energy control and conversion equipment, while also replacing critical transmission infrastructure that has reached the end of its design life.

The Company also claimed that its current risk assessment, which is updated annually based on current market prices, shows significant increases in forward energy market prices for replacement energy. In addition to the high forward market prices, the Company stated that the Midcontinent Independent System Operator (MISO, which manages the cost and reliability of

the regional transmission system) is seeing unprecedented congestion between generation and load, which the HVDC Line helps to mitigate for Minnesota Power's wind generation assets. The Company expects future years to show higher replacement energy prices as more baseload coal units retire and grid congestion patterns continue to change. The HVDC Modernization Project would mitigate risks associated with HVDC terminal equipment outages by replacing the aging HVDC infrastructure with newer and more reliable HVDC terminal equipment.

B. Expandability

In addition to the proposed project described above, the Company stated that configuration of the project creates optionality and flexibility for the HVDC system's capacity to be increased using new converter stations. The Company stated that two new HVDC converter stations (one in Minnesota and the other in North Dakota) would be capable of transferring up to 1,500 MW. The Company currently holds transmission service requests granting it rights for an additional 350 MW of capacity above the 550 MW present capability. Additional capacity, the Company explained, would become usable for Minnesota Power's customers upon completion of the Project and a separate HVDC 900 MW transmission line upgrade project, which is not part of this proceeding and not subject to a certificate of need from the Commission because it involves upgrading the existing transmission line on existing right-of-way without changing the voltage.

The Company stated that the proposed project, along with the transmission line upgrade, will be capable of delivering 900 MW of renewable energy, either for use by Minnesota Power's customers, or in the alternative, to be assigned elsewhere to other entities that need the access, thereby offsetting costs to the Company's customers.

According to the Company, the advantage of expandability is cost savings by incorporating design features into the converters that would otherwise require a more extensive and therefore costlier overhaul in the future. By comparison, the cost of expandability at this juncture is incremental. The Company stated that the larger converter station components, such as converter transformers, converter valves, and converter hall could provide incremental capacity through modest design changes, typically affecting their ampacity rating, and that doing so at this time efficiently leverages capacity by preserving optionality for future expandability.

Without the expandability option, the Company stated that the cost of the project would decrease by approximately $100 million, but the Company stated it would also lose grant funding of up to $75 million, as well as other potential funding sources. Further, a subsequent expansion of the system would increase costs because the basic components would need to be removed and replaced, requiring significant investment in AC transmission lines.

Expanding the operating capacity of the HVDC terminals, the Company maintained, would enable additional energy transfers that further Minnesota's 2040 clean energy requirement of 100 percent carbon-free electricity by 2040.

II. American Transmission Company (ATC) Alternative

ATC recommended that—in lieu of the Company's proposal to interconnect its proposed facilities to a new substation—the Commission instead require Minnesota Power to interconnect the new HVDC terminal directly to ATC's existing Arrowhead 345/230-kV Substation through two approximately one-mile 345-kV transmission lines in a double-circuit configuration. These

lines would re-use a portion of the right-of-way currently used for the 250kV Square Butte transmission line located between the new HVDC terminal and ATC's Arrowhead 345/230 kV Substation, consistent with Minnesota Power's plan to remove or decommission this segment of the Square Butte line.

ATC claimed that its proposed alternative would cost approximately $42 million and would therefore reduce costs while meeting the claimed need and reducing potential environmental impacts through use of existing right-of-way.

III. Public Comments

Members of the public commented throughout the duration of the proceeding, including in writing and orally at public meetings and hearings. The Commission appreciates the input from the public and interested stakeholders, including those affected by the proposed project.

IV. Report of the Administrative Law Judge

The Office of Administrative Hearings assigned James R. Mortenson to hear the case.

The ALJ's Report is well reasoned, comprehensive, and thorough. He made some 592 findings of fact, conclusions, and recommendations.

Having itself examined the record and having considered the ALJ's Report, the Commission concurs in most of his findings, conclusions, and recommendations. In a few instances, however, the Commission will make clarifications to the ALJ's Report, as delineated and explained below. On all other issues, the Commission accepts, adopts, and incorporates his findings, conclusions, and recommendations.

V. Environmental Assessment

The EERA prepared an environmental assessment under Minn. R. 7849.1900 and 7850.3700 to examine the potential human and environmental impacts of the proposed project, including an analysis of mitigation measures, as well as system and route alternatives.

The EERA and Commission staff held public scoping meetings to develop the scope of the environmental assessment, and the EERA subsequently issued a scoping decision identifying the issues to be developed in the environmental assessment. Upon review, the Commission finds that the environmental assessment addresses the issues identified in the scoping decision and complies with the requirements set forth in Minn. R. 7849.1500 and Minn. R. 7850.3700, subp. 4.

The environmental assessment thoroughly analyzes the proposed project, possible mitigation measures, and system and route alternatives, as well as comments received, including public comments, providing a sound basis on which to examine the Company's applications for a certificate of need and route permit.

Some of the mitigation measures include coordinating with other state and federal agencies to develop, for example, a vegetation plan, as well as to avoid impacts to protected species and to agricultural lands.

VI. Certificate of Need

The certificate of need criteria are set forth in Minn. Stat. § 216B.243 and Minn. R. 7849.0120. Under the statute, "[n]o large energy facility shall be sited or constructed in Minnesota without the issuance of a certificate of need by the commission pursuant to sections 216C.05 to 216C.30 and this section and consistent with the criteria for assessment of need."

Under the rule, a certificate of need must be granted to the applicant on determining that:

A. the probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states, considering:

   (1) the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility;

   (2) the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;

   (3) the effects of promotional practices of the applicant that may have given rise to the increase in the energy demand, particularly promotional practices which have occurred since 1974;

   (4) the ability of current facilities and planned facilities not requiring certificates of need to meet the future demand; and

   (5) the effect of the proposed facility, or a suitable modification thereof, in making efficient use of resources;

B. a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record, considering:

   (1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;

   (2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;

   (3) the effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and

   (4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

C. by a preponderance of the evidence on the record, the proposed facility, or a suitable modification of the facility, will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments, including human health, considering:

   (1) the relationship of the proposed facility, or a suitable modification thereof, to overall state energy needs;

(2) the effects of the proposed facility, or a suitable modification thereof, upon the natural and socioeconomic environments compared to the effects of not building the facility;

(3) the effects of the proposed facility, or a suitable modification thereof, in inducing future development; and

(4) the socially beneficial uses of the output of the proposed facility, or a suitable modification thereof, including its uses to protect or enhance environmental quality; and

D. the record does not demonstrate that the design, construction, or operation of the proposed facility, or a suitable modification of the facility, will fail to comply with relevant policies, rules, and regulations of other state and federal agencies and local governments.

A. Positions of the Parties

The parties largely concurred that the Company's proposed project is designed to meet a demonstrated need, although LPI argued that costs associated with converter station upgrades have not been demonstrated. And, ATC recommended that the Commission adopt an alternative to a portion of the proposed project.

1. Minnesota Power

The Company stated that the proposed project is necessary and that the demand for electricity cannot be met more cost effectively through energy conservation and load-management measures.

According to the Company, the probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states.

The Company stated that its process of forecasting demand considers historical quantities of the variables to be forecasted, which consist of energy sales and customer counts by customer class, and peak demand. The forecast shows an average annual increase of 0.2 percent in summer and winter peak demand.

The Company stated that its data also shows that the existing HVDC converter station is reaching the end of its anticipated operational life, and that the original equipment is falling into obsolescence with replacement or refurbished parts no longer readily available during system failures. The project includes the construction of major transmission and system upgrades to enhance reliability and provide the continued operation of a renewable resource connection between Minnesota and North Dakota. The Company further stated that its ongoing conservation efforts do not mitigate the need for replacement of this aging equipment and that no current or planned facilities, or a suitable modification of the proposed replacement, would better meet the demand.

Without the project, the Company stated that transmission of wind energy would be interrupted due to system outages and failures, which would require the Company to rely on fossil fuels to replace its renewable energy resource, an approach that would undermine the state's clean energy goals.

The Company also stated that a more reasonable and prudent alternative has not been demonstrated. Although the Company considered ATC's alternative, as well as changing HVDC transmission voltages to interconnect with the existing 230-kV system, replacing the HVDC line with an AC line, using different HVDC technologies, replacing the generation assets served by the HVDC line, and a no-build alternative, none of these represented a more reasonable and prudent alternative to the proposed modernization project because they would increase project costs without achieving the project's goals more effectively.

For the reasons stated above, the Company asserted that the proposed project would provide benefits to society by ensuring continued and reliable access to wind energy.

Finally, the Company stated that the proposed project would comply with all applicable local, state, and federal requirements and policies.

2. ATC

ATC recommended an alternative that would require use of an existing substation in lieu of the Company's proposal to construct a new substation in Hermantown. This would involve construction of a new, double-circuit 345 kV transmission line from the new HVDC converter station to ATC's existing 345/230 kV Arrowhead Substation. Within the substation, ATC would also add a new 345/230 kV transformer, remove, and decommission the existing 230 kV phase shifting transformer, remove and decommission the existing 345 kV capacitor banks, and perform other miscellaneous work.

As part of its proposal, ATC asked that the Commission authorize removal of an 800 megavolt amperes (MVA) limit on power flow from its existing substation, a limit that is now obsolete because the noise it was intended to offset is no longer an issue. ATC constructed a 24-foot concrete wall around the perimeter of the substation and would retire its existing phase shifting transformer, a step that would further reduce the original noise concerns.

ATC asserted that its alternative would result in greater benefits for Minnesota and the region, better leverage existing transmission assets, and avoid constructing duplicative facilities, thereby avoiding unnecessary costs to customers and unnecessary environmental and human impacts.

According to ATC, its proposed alternative would lower overall electrical losses on the transmission system; provide highly reliable means for transmission from the HVDC line to customers; allow for reliable operation of the local and regional transmission system; simplify and strengthen the overall operation of that system; and make better use of existing transmission infrastructure.

According to ATC's figures, adopting its alternative would reduce the loss of electricity through waste heat during the summer peak period by 1 MW. It would also include installation of a second transformer that complements an existing transformer at the Arrowhead Substation, meaning that if either is unable to function, the other would operate, ensuring the continued flow of electricity to customers. This contrasts with the Company's proposal to install a single transformer at the new St. Louis County Substation.

In testing its proposed alternative for system reliability relative to Minnesota Power's proposal, ATC conducted three separate studies: a steady state reliability analysis, a dynamic stability

analysis, and a voltage stability analysis. Although the results showed comparable performance in two categories, the studies' results demonstrated that the alternative would provide better voltage support to the surrounding transmission system than the Company's proposed method of interconnection (through the new St. Louis County Substation) because it enables larger power transfers across the system under system-intact conditions and under the worst-case contingency before voltage instability sets in.

ATC maintained that the Company's proposed new substation is the equivalent of overbuilding, claiming that the purpose of the new substation is to accommodate future 345 kV transmission lines. In doing so, according to ATC, the Company is unnecessarily moving the point of interconnection from the 230 kV transmission network to a 345 kV transmission network by constructing a new 345 kV substation.

ATC stated that the largest component affecting the cost is Minnesota Power's assertion that a new phase shifting transformer would be needed if ATC's alternative is adopted. But ATC disputed that this would be necessary and stated that its proposal would be less costly than the Company's configuration, which ATC asserted would cost at least $55 million.

In response to the Company's assertions that the ATC alternative would delay construction of the project, ATC stated that it would be reasonable to infer that a re-study of the project by MISO would not be required and further claimed that any risk of delay should be borne by the Company for not seriously examining ATC's alternative as part of its project development process.

Finally, ATC stated that its alternative would involve less acreage, reducing the number of acres disturbed during construction and requiring less new permanent infrastructure. ATC stated that the environmental assessment corroborates the lesser impacts of its alternative.

3. LPI

LPI argued that the Company had not demonstrated that its proposed upgrades were necessary and asserted that the additional project cost attributable to the planned upgrades was therefore prohibitive.

The focus of LPI's opposition is primarily that the Company has not demonstrated that there is a current need for the incremental 350 MW capacity secured by the new transmission service requests to increase the HVDC system capacity to 900 MW at a cost of $372 million. LPI therefore contended that the Company bears the risk of pursuing its proposed capacity buildout until it can demonstrate either the capacity is needed to serve its customers, or in the alternative, that customers have benefited financially if the incremental capacity is assigned to third-party transmission users.

4. The Department

The Department largely concurred with the Company's claimed need and its assessment of applicable certificate of need criteria and recommended that the Commission grant a certificate of need for the proposed project.

a. ATC Proposal

The Department analyzed ATC's proposal, focusing particularly on the proposal's effect on project cost, facilities, and potential delay.

According to the Department's analysis, the Company's cost estimates show that its configuration is approximately $65 million, when compared with the costs associated with ATC's alternative, estimated at approximately $61 million. The Department stated that substantive differences between the two parties remained over exact figures, including estimated costs associated with land acquisition and outages during construction. But, the Department stated that it is reasonable to conclude that the costs associated with outages during construction would be similar for either the Company's proposal or ATC's alternative. Similarly, the Department stated that the dispute over land-acquisition costs did not appear to be meaningfully or substantially lower than ATC's alternative.

The Department called into question ATC's assertions that its proposal would provide a net benefit to the Company's customers by removing a phase shifting transformer. The Company and ATC dispute whether removal of the transformer is warranted, but ATC acknowledged that by removing the transformer, there would be an increase in power flow from Minnesota to Wisconsin. While ATC contended that such power flow would be offset by a lower power flow into Wisconsin on other transmission lines, the Department stated that ATC had not demonstrated what the net effect would be. As a result, the Department stated that ATC had not demonstrated that removing the transformer weighs in favor of ATC's alternative. The Department also stated that power flow losses to Wisconsin could conceivably result in an increase in the use of fossil fuels to meet demand.

According to the Department, the likelihood that ATC's alternative would delay implementation of the project was uncertain, but that Minnesota Power's proposal has the potential to be completed sooner and possibly before the 2030 target date.

Finally, the Department stated that the environmental analysis includes a comprehensive analysis of possible impacts of the project and mitigation measures for reducing adverse impacts. The Department ultimately supported the Company's proposal over ATC's alternative.

b. LPI

The Department also evaluated LPI's claims that the Company's proposed expandability portion of the project is not necessary and is unjustifiably costly.

The Department stated that MISO does not appear to have any present plans to expand the local 345 kV system in northeastern Minnesota and that while future expansion has potential benefit, future expansion is not a high priority for this project. The Department stated that any costs associated with the expandability proposal, however, would be evaluated in a subsequent cost recovery proceeding.

5. Minnesota Power Reply

a. Response to ATC Alternative

As an initial matter, the Company recommended that the Commission exclude ATC's alternative from consideration under Minn. Stat. § 216B.243, subd. 3(6), which was amended to remove certain alternatives from evaluation, as follows:

> possible alternatives for satisfying the energy demand or transmission needs including but not limited to potential for increased efficiency and upgrading of existing energy generation and transmission facilities, load-management programs, and distributed generation, except that the commission must not require evaluation of alternative end points for a high-voltage transmission line qualifying as a large energy facility unless the alternative end points are (i) consistent with end points identified in a federally registered planning authority transmission plan, or (ii) otherwise agreed to for further evaluation by the applicant;[2]

In response to the merits of ATC's alternative, Minnesota Power recommended that the Commission decline to adopt it, stating that although ATC claimed that its proposal would not fundamentally change the proposed project, it would, in fact, alter core components of the project in a manner that would not better benefit the Company's operations or its customers.

The Company emphasized fundamental differences between its proposal and the ATC alternative, beginning with design differences. The Company's proposal would avoid significant changes in the regional transmission system, compared to ATC's alternative, which would require further study, coordination, and evaluation. Adopting the ATC alternative, the Company contended, would alter the point of interconnection for the HVDC System from the Minnesota Power Arrowhead 230 kV/115 kV Substation to the ATC Arrowhead 345 kV/230 kV Substation. This would shift the HVDC system away from the local transmission 230 kV network onto a regional 345 kV tie line that primarily serves the purpose of supporting reliability in northern and central Wisconsin, including exporting power from Minnesota to other utilities in Wisconsin. The Company stated that it had carefully considered the ATC proposal but ultimately offered its proposal as a more efficient and effective approach over the life of the converter stations, which are major components of the project.

The Company also fundamentally disagreed that ATC's proposal is the better alternative when comparing cost, as well as when considering the risks it presents, including to facilities, delay in construction, and the potential loss of state and federal funding.

First, the Company challenged ATC's cost estimates, stating that its land acquisition estimates are overstated, that its calculations do not include costs of increased power flow to Wisconsin, and that it had not accurately accounted for outage costs during construction. While the Company's proposal and ATC's alternative are relatively similar in cost, the Company stated

[2] The law went into effect on May 25, 2024, after the Commission's referral of the alternative to the Office of Administrative Hearings for evaluation as part of the contested case process.

that ATC's alternative would require a tax gross-up that would increase the cost of the alternative beyond the cost of the Company's proposal by approximately $500,000.

Second, the Company stated that ATC's alternative would create risk to its facilities by increasing power flow into Wisconsin because ATC's existing Arrowhead 345 kV/230 kV transformer connects to a 230 kV phase shifting transformer designed to regulate the flow of power on the interface between Minnesota Power's 230 kV network and ATC's Wisconsin 345 kV network. The ATC alternative would therefore require additional evaluation coordinated through regional transmission planning and operating studies involving MISO, ATC, Minnesota Power, and other affected regional utilities. This would, in turn, increase the cost of the ATC alternative.

In addition to this potential complication, increased power flow into Wisconsin would be a cost borne by the Company's ratepayers. And although ATC stated that this shift would be offset by other shifts elsewhere on the transmission system, the Company stated that such shifts, even if they occur, would not provide increased benefits to the Company's operations or its customers when compared to the Company's proposal. Further, the Company stated that ATC's request that the Commission remove an existing 800 MVA power flow limit at ATC's substation demonstrates that ATC's alternative is not feasible without further study and necessary modification, including an evaluation of whether to add a new phase shifting transformer, an addition that would significantly increase the cost of ATC's alternative.

Minnesota Power also refuted ATC's claims that ATC's alternative would be more effective in reducing overall electrical losses, stating that such savings represent a small fraction of the thousands of megawatts that serve northeastern Minnesota and would be dwarfed by the percentage of losses to Wisconsin. The Company also challenged ATC's modeling, including the assumptions, and stated that the results of ATC's studies (a steady state reliability analysis, a dynamic stability analysis, and a voltage stability analysis) were limited in scope, not prepared by a third-party consultant, and were neither initiated nor reviewed by MISO.

Third, the Company stated that the ATC alternative would cause delay by requiring canceling executed facilities construction agreements already approved by the Federal Energy Regulatory Commission, adding significant time to the project's development that jeopardizes the targeted in-service date of April 2030. Renegotiating contracts could take nearly a year, and the Company also emphasized that additional studies would be required to implement ATC's alternative. The Company stated that an in-service date sooner than 2030 is possible with its proposal but that ATC's alternative presents no opportunity for a more efficient timeframe.
According to the Company, delay jeopardizes federal funding. If the HVDC Modernization project does not meet milestones outlined in contractual obligations, the Department of Energy could discontinue its funding, which carries the risk of downstream impacts on state grants.

Finally, as to ATC's arguments that its alternative would better satisfy environmental considerations, the Company stated that under Minn. R. 7849.1400, subp. 6, an alternative may be excluded from consideration that "does not meet the underlying need for or purposes of the project or that is not likely to have any significant environmental benefit compared to the proposed project as proposed, or if another alternative that will be analyzed is likely to have similar environmental benefits with substantially less adverse economic, employment, or sociological impacts that the suggested alternative."

According to the Company, ATC's alternative does not meet the underlying need for or purpose of the project and does not offer any significant environmental benefit compared to the Company's proposal. Minnesota Power therefore emphasized that the difference in impacts between the proposals are reasonably comparable and that the minimal impacts of either do not weigh in favor of selecting ATC's alternative over the Company's proposal.

b. Response to LPI

The Company disagreed with LPI that the expandability portion of its project is grounds for denying its certificate of need application or warrants delay of the proceeding.

Minnesota Power explained that the expandability portion of its project supports 350 MW of transmission service requests that the Company holds for the benefit of its customers, which would necessitate increasing the capacity of the HVDC system from 550 MW to 900 MW.

The Company acknowledged that it has an immediate need to maintain 550 MW of the capacity on the HVDC System but stated that securing the additional 350 MW in capacity ensures a continued and expanded benefit for the Company's customers. If there is a resource need for the additional 350 MW, the Company would hold that priority on the HVDC System. If no such need materializes, the Company could assign all or part of its transmission service requests to one or more third parties, leading to a financial benefit to its customers.

B. Recommendation of the Administrative Law Judge

The Administrative Law Judge largely accepted Minnesota's Power's positions, stating that the Company had demonstrated that its proposed project meets the applicable certificate of need criteria and therefore recommended that the Commission grant a certificate of need for the proposed project.

7849.0120 (A) Probable Result of Denial Would Be an Adverse Effect Upon the Future Adequacy, Reliability, or Efficiency of Energy Supply to the Applicant, to the Applicant's Customers, or to the People of Minnesota and Neighboring States

The Administrative Law Judge found that the Company had demonstrated that the project is needed to meet the forecasted demand for electricity and that the project would enhance the HVDC system's capability to reliably deliver the benefits of renewable energy resources. He also found that there is a need for replacement infrastructure due to increasing outages and possible line failure.

He found that conservation efforts do not correlate directly to the need for the project, that there were no promotional activities by the Company that created the need for the project, and that there were no current facilities and planned facilities not requiring certificates of need that would better meet the demand for electricity. He also found that there was no suitable modification of the proposed facility that would make efficient use of resources.

7849.0120 (B) A More Reasonable and Prudent Alternative to the Proposed Facility Has Not Been Demonstrated by a Preponderance of the Evidence on the Record

The Administrative Law Judge found that a more reasonable and prudent alternative had not been demonstrated by a preponderance of the evidence on the record.

In evaluating the Company's proposal, the Administrative Law Judge examined the Company's efforts to use alternate transmission voltage and technology, generation alternatives, a no-build alternative, and different transmission endpoints. He found that by comparison, the Company's proposal would more effectively address the claimed need for the project, including when considering cost and environmental factors.

He found that changing the line from an HVDC line to an AC line, for example, would increase environmental impacts. He also found that generation was not a reasonable alternative because additional transmission facilities are necessary to address the stated need. He also found that a no-build alternative would adversely impact reliability.

In response to ATC's alternative, the Administrative Law Judge concurred with Minnesota Power that the alternative is reasonably likely to cause undue delay of the proposed project by requiring additional analysis that jeopardizes the targeted in-service date of April 2030. He found that the Company's goal of an earlier in-service date would be impossible if ATC's alternative were selected.

The Administrative Law Judge also found that, although ATC's alternative may be less expensive if phase shifting transformer costs are removed from the calculation of the alternative, the Company's proposal for expandability would save money in the long-term when compared with the ATC alternative, which would require subsequent and more costly upgrades to accommodate expandability.

The Administrative Law Judge also found that the future expandability portion of Minnesota Power's proposal offers more significant environmental benefits compared to ATC's alternative by increasing the capacity to deliver renewable energy to customers, consistent with the state's goal of increasing the use of renewable energy resources.

In response to LPI's assertions that the Company had not demonstrated that the expandability portion of the project was needed based on forecasted demand, the Administrative Law Judge found that the Company's efforts to obtain grant funding to offset associated costs would reduce $75 million of the $100 million in expandability costs and that the Company was making reasonable efforts to obtain additional funding to offset the remaining balance. The Administrative Law Judge also found, however, that the 350 MW proposed increase is not part of the current proceeding, and that the Company's immediate need is for an additional 550 MW.

7829.0120 (C) By a Preponderance of Evidence on the Record, the Proposed Facility, or a Suitable Modification of the Facility, Will Provide Benefits to Society in a Manner Compatible with Protecting the Natural and Socioeconomic Environments, Including Human Health

The Administrative Law Judge found that Minnesota Power's proposal is more consistent with the goal of providing socio-economic benefits and protection of the environment because it enables the continued transition to carbon-free electrical power.

7829.0120 (D) The Record Does Not Demonstrate that the Design, Construction, or Operation of the Proposed Facility, or a Suitable Modification of the Facility, Will Fail to Comply with Relevant Policies, Rules, and Regulations of Other State and Federal Agencies and Local Governments

The Administrative Law Judge found that the Company's commitment to comply with all applicable requirements satisfied this standard.

C. Commission Action

The Commission concurs with the ALJ's recommendation to grant a certificate of need for the proposed project. The Commission is persuaded that the proposed project is designed to meet a demonstrated need and that, on balance, the Company's proposal better satisfies the applicable certificate of need criteria.

1. LPI's Position

LPI claimed that the Company's proposal to incorporate expandability into its project does not satisfy applicable certificate of need requirements because the Company has not yet demonstrated a need for the increases. But LPI's arguments are fundamentally cost-based, and the Company's decision to invest in such equipment upgrades will be subsequently considered in a separate proceeding. Furthermore, the Company's larger converter stations would not affect the voltage of the line and do not appear to require a separate certificate of need. The Company also stated that it had applied for, and received, grant funding for approximately $75 million of the $100 million associated with the expandability portion of the project and that it has secured transmission service requests to reserve 350 MW (above 550 MW) as another option for utilizing the additional capacity.

The Company further acknowledged that it would seek recovery of costs related to any amounts associated with additional transmission capacity over 550 MW in a rate case proceeding, which would subject the Company's claimed costs to a high level of scrutiny.

2. ATC Proposal

As an initial matter, the Commission is not persuaded by the Company's argument that ATC's alternative is precluded from consideration by the Commission under Minn. Stat. § 216B.243, subd. 3(6), which requires the evaluation of numerous criteria, including the following (amended as shown in underlining below):

> possible alternatives for satisfying the energy demand or transmission needs including but not limited to potential for increased efficiency and upgrading of existing energy generation and transmission facilities, load-management programs, and distributed generation, <u>except that the commission must not require evaluation of alternative end points for a high-voltage transmission line qualifying as a large energy facility unless the alternative end points are (i) consistent with end points identified in a federally</u>

registered planning authority transmission plan, or (ii) otherwise agreed to for further evaluation by the applicant;[3]

The Commission disagrees with the Company's position that ATC's alternative, which has been evaluated on the record as part of the contested case process, is precluded from consideration.

The parties and the Administrative Law Judge comprehensively analyzed ATC's proposed alternative prior to the effective date of the statute's amendment. Foreclosing the possibility of Commission consideration of an alternative that has been evaluated is not consistent with the plain language of the statute, which precludes the Commission from *requiring evaluation* of such an alternative. Public and evidentiary hearings were held on the proposed project, including evaluation of ATC's alternative, in March 2024. And while the statutory amendment applies to pending applications, the Commission will consider ATC's alternative based on the fact that evaluation of the alternative was required by the Commission prior to the amendment's effective date.

In other words, the Commission finds that the plain language of the statute does not preclude the Commission from considering and evaluating the alternative end point that was completed before the law changed and also considering the Administrative Law Judge's conclusion that the ATC alternative is not a more reasonable and prudent alternative.

In considering ATC's alternative, which is aimed at reducing costs and environmental impacts, the Commission is not persuaded that ATC's alternative better satisfies applicable criteria or outweighs the potential benefits of the facility proposed by Minnesota Power.

The thrust of ATC's position is that its alternative would be less costly compared to the Company's proposal, but the record demonstrates that the estimated cost differences are not significant, particularly in light of the fact that the two parties continue to dispute each other's estimates and disagree on which types of costs are relevant. Minnesota Power claims, for example, that ATC's estimates exclude a tax gross-up and under-estimate the costs of land acquisition and outages during construction. But, Minnesota Power also claims that ATC's alternative would increase costs to ratepayers as a result of electrical losses and potential delay.

While ATC disputes these assertions, and claims that direct costs favor its proposed alternative, ATC has not definitively demonstrated that its proposed alternative is, in fact, lower cost. And, the Commission disagrees with ATC that the Commission's consideration is limited to a strict weighing of only estimated direct costs, particularly when the parties hotly dispute those costs and there is record evidence to support a conclusion that the cost of electrical losses and delay could increase costs to the Company's customers.

Without a clear cost advantage, ATC's alternative does not appear to offer other potential benefits that weigh in favor of adopting it. It carries some risk of potential delay that could be caused by the need to renegotiate contracts or conduct additional studies. Furthermore, under the Company's proposal, it is possible that an in-service date sooner than April 2030 could be met,

[3] The law went into effect on May 25, 2024, after the Commission's referral of the alternative to the Office of Administrative Hearings for evaluation as part of the contested case process.

while ATC's alternative does not appear to be equally timely. The Commission is not persuaded that such timing concerns are entirely without merit, and ATC's contention that the Company bears the responsibility of such risks is unavailing. These risks are germane to the consideration of ATC's alternative, not the reasonableness of Minnesota Power's proposal. The risk of delay, and associated costs, ultimately weigh against ATC's alternative.

Additionally, ATC's alternative would likely involve consideration of ATC's request to remove a power flow limit on the substation, a factor that calls into question the viability of the alternative as proposed, particularly when the Company's position is that a new phase shifting transformer would be needed, an expense that would significantly increase the cost of ATC's alternative. Although ATC disputes that a new transformer would be needed, a change to ATC's existing permit would likely require further review that could result in additional costs.

ATC has also argued that its alternative would reduce electrical losses compared to the Company's proposal, but it is unclear from the record that there is a certain and known percentage of savings from electrical losses that makes the ATC alternative more reasonable and prudent. The Company challenged the results of ATC's studies, including the assumptions relied upon, calling into question the degree to which those studies are determinative, particularly considering that the difference in estimated electrical losses between the Company's proposal and ATC's alternative may not be significant. As the Company has stated, it is not clear that a claimed one megawatt of savings in electrical losses across a broad transmission system that transfers thousands of megawatts is a more reasonable and prudent alternative than the Company's proposal, which would not result in losses to Wisconsin.

The Commission is equally unpersuaded by ATC's position that the point of interconnection of its alternative is more advantageous than the Company's proposal. ATC's point of interconnection is likely to result in power flow to Wisconsin, and while the extent of those electrical losses and their corresponding costs is estimated and in dispute, the risk of such a result does not support a finding that ATC's alternative is more reasonable and prudent than the Company's proposal.

ATC also argued that the examination of potential environmental impacts weighs in favor of its alternative, but the record demonstrates that the difference in environmental impacts is minimal, and the EERA has identified reasonable mitigation measures to further reduce the impacts associated with Minnesota Power's proposed project. For example, impacts to natural resources are expected to be minimal but can be effectively mitigated through a vegetation plan, with which the Company stated it would comply. The Company also agreed to consult with the Department of Natural Resources and the U.S. Fish and Wildlife Service to avoid impacts to protected species as required by law. The Company would also consult with the Department of Agriculture to avoid and reduce impacts to agricultural lands. These, among other mitigation measures, would effectively manage the impacts of the proposed project.

For all these reasons, the Commission is persuaded that, on balance, the Company's proposal reasonably satisfies the applicable certificate of need criteria and that there is no more reasonable and prudent alternative.

The Commission will therefore grant a certificate of need, finding:

A. the probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states, considering:

(1) the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility;

(2) the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;

(3) the effects of promotional practices of the applicant that may have given rise to the increase in the energy demand, particularly promotional practices which have occurred since 1974;

(4) the ability of current facilities and planned facilities not requiring certificates of need to meet the future demand; and

(5) the effect of the proposed facility, or a suitable modification thereof, in making efficient use of resources;

B. a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record, considering:

(1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;

(2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;

(3) the effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and

(4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

C. by a preponderance of the evidence on the record, the proposed facility, or a suitable modification of the facility, will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments, including human health, considering:

(1) the relationship of the proposed facility, or a suitable modification thereof, to overall state energy needs;

(2) the effects of the proposed facility, or a suitable modification thereof, upon the natural and socioeconomic environments compared to the effects of not building the facility;

(3) the effects of the proposed facility, or a suitable modification thereof, in inducing future development; and

(4) the socially beneficial uses of the output of the proposed facility, or a suitable modification thereof, including its uses to protect or enhance environmental quality; and

D. the record does not demonstrate that the design, construction, or operation of the proposed facility, or a suitable modification of the facility, will fail to comply with relevant policies, rules, and regulations of other state and federal agencies and local governments.[4]

VII. Route Permit

When evaluating a route permit application, the Commission considers numerous criteria set forth under Minn. Stat. § 216E.03, subd. 7, as well as Minn. R. 7850.4100. Based on the record, the parties' analyses, and the Administrative Law Judge's conclusions and recommendations, the Commission will issue a route permit, as identified by the Company, and include permit conditions recommended by the Administrative Law Judge.

A. Positions of the Parties

There was little contention among the parties over the proposed route and its potential impacts, as well as over ATC's proposed alternative and its potential impacts.

1. The EERA

The EERA's environmental analysis included an exhaustive analysis of the proposed project and ATC's alternative, along with the potential associated environmental impacts of each and mitigation measures for ameliorating those impacts.

Ultimately, the EERA's environmental analysis shows that the potential impacts of ATC's alternative and the Company's proposed project are similar. While ATC's alternative offers a means to avoid or mitigate some potential impacts, such as aesthetic impacts due to a switchyard not being required, the EERA stated that tradeoffs exist. For example, although ATC's alternative utilizes 25 feet of existing right-of-way, it would require a new clearing to cross a trout stream near an already cleared right-of-way for a 230 kV transmission line, a fact that could exacerbate impacts.

The EERA stated that ATC's alternative would have fewer greenhouse gas emissions during construction, that its infrastructure would be near fewer residences, be less noisy during construction, not create new access points off Morris Thomas Road, and be more screened from view. But the EERA found that these benefits are only incrementally better than that of the proposed project and that the two are comparable. For instance, operational noise from the proposed project is expected to be minimal with the switchyard nearest to residences. ATC's alternative would also require one crossing of the trout stream, creating a similar but moderate impact.

Under Minnesota Power's proposal, the infrastructure would be closer to an identified archeological site but would still comply with a 100-meter buffer requested by the State Historic Preservation Office. Tree clearing impacts to construct the proposed project or ATC's alternative are moderate at 34.25 acres and 34.72 acres, respectively.

The EERA identified numerous mitigation measures to reduce the impacts, including consultation with state and federal agencies to develop mitigation of impacts to protected lands

[4] Minn. R. 7849.0120.

and species, as well as the development of permit conditions obligating the Company to adhere to protective measures.

2. Minnesota Power

Minnesota Power recommended that the Commission issue a route permit for its proposed project, stating that the EERA's environmental analysis effectively identified potential impacts and effective mitigation measures, with which the Company concurred.

3. ATC

ATC recommended that the Commission find that the environmental analysis weighs in favor of its proposed alternative and recommended that the Commission issue a permit for its proposed segment of the route.

B. Recommendation of the Administrative Law Judge

The Administrative Law Judge examined the proposed project, as well as ATC's proposed alternative, under the following criteria set forth in Minn. Stat. § 216E.03, subd. 7:

> Subd. 7. Considerations in designating sites and routes.
>
> (a) The commission's site and route permit determinations must be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.
> (b) To facilitate the study, research, evaluation, and designation of sites and routes, the commission shall be guided by, but not limited to, the following considerations:
>
> (1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power facilities and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;
> (2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
> (3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
> (4) evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
> (5) analysis of the direct and indirect economic impact of

proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
(6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
(7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;
(8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
(9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
(10) evaluation of the future needs for additional high-voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
(11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved;
(12) when appropriate, consideration of problems raised by other state and federal agencies and local entities;
(13) evaluation of the benefits of the proposed facility with respect to (i) the protection and enhancement of environmental quality, and (ii) the reliability of state and regional energy supplies;
(14) evaluation of the proposed facility's impact on socioeconomic factors; and
(15) evaluation of the proposed facility's employment and economic impacts in the vicinity of the facility site and throughout Minnesota, including the quantity and quality of construction and permanent jobs and their compensation levels. The commission must consider a facility's local employment and economic impacts, and may reject or place conditions on a site or route permit based on the local employment and economic impacts.

He also evaluated the proposed project, as well as ATC's proposed alternative under Minn. R. 7850.4100, which states as follows:

7850.4100 FACTORS CONSIDERED.
In determining whether to issue a permit for a large electric power generating plant or a high voltage transmission line, the commission shall consider the following:

A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
B. effects on public health and safety;

C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
D. effects on archaeological and historic resources;
E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;
F. effects on rare and unique natural resources;
G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
I. use of existing large electric power generating plant sites;
J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;
K. electrical system reliability;
L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;
M. adverse human and natural environmental effects which cannot be avoided; and
N. irreversible and irretrievable commitments of resources.

Overall, he found that the Company's proposed route would have limited environmental impacts and that such impacts would be effectively mitigated by measures recommended by the EERA, and with which the Company concurred. He also found that the impacts of the proposed project compared to ATC's proposed alternative were minimal and did not justify adopting ATC's proposed alternative in lieu of the Company's proposal, and he therefore recommended issuing a route permit to Minnesota Power for its proposed project.

He did, however, recommend route permit conditions to reduce impacts, including permit conditions recommended by the EERA governing: vegetation retention; HVDC converter station aesthetics; noise study; right-of-way restoration near trout streams; steep slopes; facility lighting; dust control; wildlife-friendly erosion control; vegetation management plan; and independent third-party monitoring. He found that reasonable steps to mitigate the potential impacts of the proposed project would be effective in reducing impacts and that permit conditions would ensure that the Company effectively complies with the conditions in the manner intended.

C. Commission Action

The Commission concurs with the ALJ's analysis of the applicable statutory and rule factors and with his recommendation to issue a route permit for the Company's proposed project with permit conditions to effectively mitigate potential impacts.

The Commission also appreciates the EERA's extensive analysis of the proposed project and ATC's alternative, as well as identification of mitigation measures to reduce potential impacts. The Commission recognizes the importance of selecting routes that avoid and minimize impacts to the fullest extent possible.

Based on the extensive analysis in the environmental assessment, the Commission is persuaded that the potential impacts of the Company's proposed project are reasonably minimal, and that ATC's proposed alternative would have similar or comparable impacts. The mitigation measures identified by the EERA and agreed to by the Company will be set forth in permit conditions, with which the Company must comply. Further, the Company's close consultation with other governmental agencies with regulatory responsibilities related to the potential impacts of the proposed project will provide beneficial oversight in ensuring that such impacts are effectively mitigated.

And while construction of the project will have environmental impacts that warrant mitigation measures, the operation of the proposed project will result in environmental benefits derived from the transmission of wind energy, which furthers the state's goal to increase the use of renewable energy resources and reduce greenhouse gas emissions.

VIII. Exceptions to the ALJ's Report

Both the EERA and the Company recommended exceptions to the ALJ's report, modifications that are consistent with the decisions herein. The Commission will therefore adopt those modifications as set forth in the ordering paragraphs below.

IX. Reporting Requirements

Finally, the Commission will require the Company to make filings as set forth in the ordering paragraphs below, requirements that the Company did not oppose.

ORDER

1. The Commission hereby adopts the ALJ's Report to the extent it is consistent with the Commission's decisions.

2. The Commission adopts the modifications to ALJ Findings of Fact numbers 234, 262, and 446 requested by the EERA in its June 24, 2024, comments.

3. The Commission adopts the recommendations set forth in Minnesota Power's July 1, 2024, exceptions to the ALJ's Report to:

    a. Adopt new Findings 28a and 28b
    b. Correct the Figure 1 label
    c. Correct Findings 97 and 98
    d. Revise Finding 240
    e. Revise Finding 564
    f. Adopt New Finding 565a

4. The Commission finds that the environmental assessment and the record address the issues identified in the scoping decision.

5. The Commission grants a certificate of need to Minnesota Power for the HVDC Modernization Project.

6. The Commission issues a route permit that identifies the refined proposed route as proposed by the applicant for the HVDC Modernization Project in its February 14, 2024, direct testimony, incorporating the permit conditions recommended in the ALJ's Report.

7. Minnesota Power must file information regarding the milestone for obtaining federal funds from the U.S. Department of Energy Grid Resilience and Innovation Partnerships round 1 funding and state what portion of those funds might be lost if there are delays that cause the project to not be completed within the 60-month deadline.

8. Minnesota Power must file biannual reports in the acquisition docket, E-015/PA-24-198 and the certificate of need docket, E-015/CN-22-607, on usage, as known, for the SunZia and North Plains Connector HVDC systems.

9. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Will Seuffert
Executive Secretary

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STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

ROUTE PERMIT FOR
THE HVDC MODERNIZATION PROJECT

A HIGH-VOLTAGE TRANSMISSION LINE AND ASSOCIATED FACILITIES

IN
SAINT LOUIS COUNTY

ISSUED TO
MINNESOTA POWER

PUC DOCKET NO. E-015/TL-22-611

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850 this route permit is hereby issued to:

Minnesota Power

Minnesota Power is authorized by this route permit to upgrade and operate the Square Butte transmission line, a 465-mile, ±250 kilovolt (kV), 550-megawatt (MW) high-voltage direct-current (HVDC) transmission line from the Minnesota-North Dakota border and Hermantown, Minnesota.

The transmission facilities shall be constructed within the route identified in this route permit and in compliance with the conditions specified in this route permit.

Approved and adopted this 25th day of October 2024

BY ORDER OF THE COMMISSION

Will Seuffert,
Executive Secretary

CONTENTS

ATTACHMENTS

1 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Minnesota Power (Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This route permit authorizes the Permittee to upgrade and operate the Square Butte transmission line, a 465-mile, ±250 kilovolt (kV), 550-megawatt (MW) high-voltage direct-current (HVDC) transmission line between Hermantown, Minnesota, and Center, North Dakota (HVDC Modernization Project, henceforth known as Transmission Facility). The high-voltage transmission line shall be constructed within the route identified in this route permit and in compliance with the conditions specified in this route permit.

1.1 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this route permit shall be the sole route approval required for construction of the transmission facilities and this route permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose governments.

2 TRANSMISSION FACILITY DESCRIPTION

The HVDC Modernization Project will upgrade the HVDC transmission line terminals in Hermantown, Minnesota, and Center, North Dakota and interconnect the upgraded HVDC terminals to the existing alternating current (AC) transmission system at the existing points of interconnection. In Minnesota, the HVDC terminals will interconnect to Minnesota Power's local 230 kV system at the Minnesota Power Arrowhead 230 kV/115 kV Substation, the same location the HVDC system currently connected.

The Transmission Facility in Minnesota includes the following:

- a new St. Louis County HVDC/345 kV Converter Station;
- a new St. Louis County 345 kV/230 kV Substation;
- relocation of the existing HVDC transmission line to facilitate termination at the new St. Louis County HVDC/345 kV Converter Station;
- less than one mile of new 345 kV single-circuit transmission line between the new St. Louis County HVDC/345 kV Converter Station and the new St. Louis County 345 kV/230 kV Substation;
- less than on mile of new double-circuit 230 kV transmission line between the new St. Louis County 345 kV/230 kV Substation and the existing Minnesota Power Arrowhead 230 kV/115 kV Substation; and
- modifications at the existing Minnesota Power Arrowhead 230 kV/115 kV Substation.

The Transmission Facility is located in the following counties, cities, and townships:

County	Township Name	Township	Range	Section
St. Louis	Solway	50N	15W	31
St. Louis	City of Hermantown	50N	16W	36

2.1 Structures and Conductors

The table below details specifics on the various structure and conductor types as presented in the Minnesota Power's June 2023 Certificate of Need and Route Permit Application for the HVDC Modernization Project (Application).

Line Type	Conductor[1]	Structure		Foundation	Foundation Diameter (feet)	Height (feet)	Span (feet)	Right-of-Way Width (feet)
		Type	Material					
230 kV	ACSR or ACSS	Tubular Pole	Weathering Steel	Concrete Pier	4-12	60-180	200-1000	130
345 kV	ACSR or ACSS	Tubular Pole	Weathering Steel	Concrete Pier	4-12	60-180	200-1000	150
±250 kV	2839 ACSR	Tubular Pole	Weathering Steel	Concrete Pier	4-12	60-180	200-1000	120

Notes: ACSR=aluminum conductor steel reinforced, ACSS=aluminum conductor steel supported.
[1] Bundled configurations (*e.g.*, two sub conductors per phase).

3 DESIGNATED ROUTE

The route designated by the Commission is depicted on the route maps attached to this route permit (Designated Route). The Designated Route is generally described as follows:

The route is designated as a 40-acre polygon approximately 0.5 mile wide from north to south and 0.7 mile long from east to west located in St. Louis County in the cities and townships identified in Section 2 of this route permit.

In the case of this route permit, the route width is intended to provide flexibility to design facilities, to minimize system impacts and outages, to optimize future expandability work with

landowners, to address engineering concerns, to avoid sensitive natural resources, and to manage construction constraints as practical.

Any modifications to the Designated Route or modifications that would result in right-of-way placement outside the Designated Route shall be specifically reviewed by the Commission in accordance with Minn. R. 7850.4900 and Section 10 of this route permit.

4 RIGHT-OF-WAY

This route permit authorizes the Permittee to obtain a new permanent right-of-way for the Transmission Facilities as designated on the route maps and in sections 2 and 2.1 of this route permit.

Any right-of-way modifications within the Designated Route shall be located so as to have comparable overall impacts relative to the factors in Minn. R. 7850.4100, as does the right-of-way identified in this route permit, and shall be specifically identified and documented in and approved as part of the plan and profile submitted pursuant to Section 9.1 of this route permit.

Where the transmission line parallels existing highway and other road rights-of-way, the transmission line right-of-way shall occupy and utilize the existing right-of-way to the maximum extent possible; consistent with the criteria in Minn. R. 7850.4100, and the other requirements of this route permit; and for highways under the jurisdiction of the Minnesota Department of Transportation (MnDOT), the procedures for accommodating utilities in trunk highway rights-of-way.

5 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction and operation of the Transmission Facility over the life of this route permit.

5.1 Route Permit Distribution

Within 30 days of issuance of this route permit, the Permittee shall provide all affected landowners with a copy of this route permit and the complaint procedures. An affected landowner is any landowner or designee that is within or adjacent to the Designated Route. In no case shall a landowner receive this route permit and complaint procedures less than five days prior to the start of construction on their property. The Permittee shall also provide a copy of this route permit and the complaint procedures to the applicable regional development commissions, county environmental offices, and city and township clerks. The Permittee shall

file with the Commission an affidavit of its route permit and complaint procedures distribution within 30 days of issuance of this route permit.

5.2 Access to Property

The Permittee shall notify landowners prior to entering or conducting maintenance within their property, unless otherwise negotiated with the landowner. The Permittee shall keep records of compliance with this section and provide them upon the request of the Minnesota Department of Commerce (Department of Commerce) staff or Commission staff.

5.3 Construction and Operation Practices

The Permittee shall comply with the construction practices, operation and maintenance practices, and material specifications described in the permitting record for this Transmission Facility unless this route permit establishes a different requirement in which case this route permit shall prevail.

5.3.1 Field Representative

The Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this route permit during construction of the Transmission Facility. This person shall be accessible by telephone or other means during normal business hours throughout site preparation, construction, cleanup, and restoration.

The Permittee shall file with the Commission the name, address, email, phone number, and emergency phone number of the field representative at least 14 days prior to the pre-construction meeting. The Permittee shall provide the field representative's contact information to affected landowners, local government units and other interested persons at least 14 days prior to the pre-construction meeting. The Permittee may change the field representative at any time upon notice to the Commission, affected landowners, local government units and other interested persons. The Permittee shall file with the Commission an affidavit of distribution of its field representative's contact information at least 14 days prior to the pre-construction meeting and upon changes to the field representative.

5.3.2 Employee Training - Route Permit Terms and Conditions

The Permittee shall train all employees, contractors, and other persons involved in the Transmission Facility construction regarding the terms and conditions of this route permit. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.3.3 Public Services, Public Utilities, and Existing Easements

During Transmission Facility construction, the Permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services or public utilities occur these shall be temporary, and the Permittee shall restore service promptly. Where any impacts to utilities have the potential to occur the Permittee shall work with both landowners and local entities to determine the most appropriate mitigation measures if not already considered as part of this route permit.

The Permittee shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.3.4 Temporary Workspace

The Permittee shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Temporary space shall be selected to limit the removal and impacts to vegetation. The Permittee shall obtain temporary easements outside of the authorized transmission line right-of-way from affected landowners through rental agreements. Temporary easements are not provided for in this route permit.

The Permittee may construct temporary driveways between the roadway and the structures to minimize impact using the shortest route feasible. The Permittee shall use construction mats to minimize impacts on access paths and construction areas. The Permittee shall submit the location of temporary workspaces and driveways with the plan and profile pursuant to Section 9.1.

5.3.5 Noise

The Permittee shall comply with noise standards established under Minn. R. 7030.0010 to 7030.0080. The Permittee shall limit construction and maintenance activities to daytime working hours to the extent practicable.

5.3.6 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. The Permittee shall use care to preserve the natural

landscape, minimize tree removal and prevent any unnecessary destruction of the natural surroundings in the vicinity of the Transmission Facility during construction and maintenance. The Permittee shall work with landowners to locate the high-voltage transmission line to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads. The Permittee shall place structures at a distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highways, or trail crossings.

5.3.7 Soil Erosion and Sediment Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) Construction Stormwater Program. If construction of the Transmission Facility disturbs more than one acre of land or is sited in an area designated by the MPCA as having potential for impacts to water resources, the Permittee shall obtain a National Pollutant Discharge Elimination System/State Disposal System Construction Stormwater Permit from the MPCA that provides for the development of a Stormwater Pollution Prevention Plan that describes methods to control erosion and runoff.

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the Transmission Facility shall be returned to pre-construction conditions.

5.3.8 Wetlands and Water Resources

The Permittee shall develop wetland impact avoidance measures and implement them during construction of the Transmission Facility. Measures shall include spacing and placing the power poles at variable distances to span and avoid wetlands, watercourses, and floodplains. Unavoidable wetland impacts as a result of the placement of poles shall be limited to the immediate area around the poles. To minimize impacts, the Permittee shall construct in wetland areas during frozen ground conditions where practicable and according to permit requirements by the applicable permitting authority. When construction during winter is not possible, the Permittee shall use wooden or composite mats to protect wetland vegetation.

The Permittee shall contain soil excavated from the wetlands and riparian areas and not place it back into the wetland or riparian area. The Permittee shall access wetlands and riparian areas

using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts. The Permittee shall not place staging or stringing set up areas within or adjacent to wetlands or water resources, as practicable. The Permittee shall assemble power pole structures on upland areas before they are brought to the site for installation.

The Permittee shall restore wetland and water resource areas disturbed by construction activities to pre-construction conditions in accordance with the requirements of applicable state and federal permits or laws and landowner agreements. The Permittee shall meet the USACE, Minnesota Department of Natural Resources (DNR), Minnesota Board of Water and Soil Resources, and local units of government wetland and water resource requirements.

5.3.9 Vegetation Management

The Permittee shall minimize the number of trees to be removed in selecting the right-of-way specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow fences, and vegetation in areas such as trail and stream crossings where vegetative screening may minimize aesthetic impacts, to the extent that such actions do not violate sound engineering principles or system reliability criteria.

The Permittee shall remove tall growing species located within the transmission line right-of-way that endanger the safe and reliable operation of the transmission line. The Permittee shall leave undisturbed, to the extent possible, existing low growing species in the right-of-way or replant such species in the right-of-way to blend the difference between the right-of-way and adjacent areas, to the extent that the low growing vegetation that will not pose a threat to the transmission line or impede construction.

5.3.10 Application of Pesticides

The Permittee shall restrict pesticide use to those pesticides and methods of application approved by the Minnesota Department of Agriculture (MDA), DNR, and the U.S. Environmental Protection Agency (EPA). Selective foliage or basal application shall be used when practicable. All pesticides shall be applied in a safe and cautious manner so as not to damage adjacent properties including crops, orchards, tree farms, apiaries, or gardens. The Permittee shall contact the landowner at least 14 days prior to pesticide application on their property. The Permittee may not apply any pesticide if the landowner requests that there be no application of pesticides within the landowner's property. The Permittee shall provide notice of pesticide application to landowners and beekeepers operating known apiaries within three miles of the pesticide application area at least 14 days prior to such application. The Permittee shall keep pesticide communication and application records and provide them upon the request of Department of Commerce staff or Commission staff.

5.3.11 Invasive Species

The Permittee shall employ best management practices to avoid the potential introduction and spread of invasive species on lands disturbed by Transmission Facility construction activities. The Permittee shall develop an Invasive Species Prevention Plan and file it with the Commission at least 14 days prior to the pre-construction meeting. The Permittee shall comply with the most recently filed Invasive Species Prevention Plan.

5.3.12 Noxious Weeds

The Permittee shall take all reasonable precautions against the spread of noxious weeds during all phases of construction. When utilizing seed to establish temporary and permanent vegetative cover on exposed soil the Permittee shall select site appropriate seed certified to be free of noxious weeds. To the extent possible, the Permittee shall use native seed mixes. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.3.13 Roads

The Permittee shall advise the appropriate governing bodies having jurisdiction over all state, county, city, or township roads that will be used during the construction phase of the Transmission Facility. Where practical, existing roadways shall be used for all activities associated with construction of the Transmission Facility. Oversize or overweight loads associated with the Transmission Facility shall not be hauled across public roads without required permits and approvals.

The Permittee shall construct the fewest number of site access roads required. Access roads shall not be constructed across streams and drainage ways without the required permits and approvals. Access roads shall be constructed in accordance with all necessary township, county or state road requirements and permits.

The Permittee shall promptly repair private roads or lanes damaged when moving equipment or when accessing construction workspace, unless otherwise negotiated with the affected landowner.

5.3.14 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to archaeological and historic resources when constructing the Transmission Facility. In the event that a resource is encountered, the Permittee shall consult with the State Historic Preservation Office and the State Archaeologist.

Where feasible, avoidance of the resource is required. Where not feasible, mitigation must include an effort to minimize Transmission Facility impacts on the resource consistent with State Historic Preservation Office and State Archaeologist requirements.

Prior to construction, the Permittee shall train workers about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction. If human remains are encountered during construction, the Permittee shall immediately halt construction and promptly notify local law enforcement and the State Archaeologist. The Permittee shall not resume construction at such location until authorized by local law enforcement or the State Archaeologist. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.3.15 Avian Protection

The Permittee in cooperation with the DNR shall identify areas of the transmission line where bird flight diverters will be incorporated into the transmission line design to prevent large avian collisions attributed to visibility issues. Standard transmission design shall incorporate adequate spacing of conductors and grounding devices in accordance with Avian Power Line Interaction Committee standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices. The Permittee shall submit documentation of its avian protection coordination with the plan and profile pursuant to Section 9.1.

5.3.16 Drainage Tiles

The Permittee shall avoid, promptly repair, or replace all drainage tiles broken or damaged during all phases of the Transmission Facility's life unless otherwise negotiated with the affected landowner. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.3.17 Restoration

The Permittee shall restore the right-of-way, temporary workspaces, access roads, abandoned right-of-way, and other public or private lands affected by construction of the Transmission Facility. Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittee shall file with the Commission a Notice of Restoration Completion.

5.3.18 Cleanup

The Permittee shall remove and properly dispose of all construction waste and scrap from the right-of-way and all premises on which construction activities were conducted upon completion of each task. The Permittee shall remove and properly dispose of all personal litter, including bottles, cans, and paper from construction activities daily.

5.3.19 Pollution and Hazardous Wastes

The Permittee shall take all appropriate precautions to protect against pollution of the environment. The Permittee shall be responsible for compliance with all laws applicable to the generation, storage, transportation, clean up and disposal of all waste generated during construction and restoration of the Transmission Facility.

5.3.20 Damages

The Permittee shall fairly restore or compensate landowners for damage to crops, fences, private roads and lanes, landscaping, drain tile, or other damages sustained during construction. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.4 Electrical Performance Standards

5.4.1 Grounding

The Permittee shall design, construct, and operate the transmission line in a manner so that the maximum induced steady-state short-circuit current shall be limited to five milliamperes root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short-circuit current between ground and the object so as not to exceed one milliampere rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the National Electric Safety Code. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

5.4.2 Electric Field

The Permittee shall design, construct, and operate the transmission line in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.

5.4.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the Transmission Facility, the Permittee shall take whatever action is necessary to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the Transmission Facility. The Permittee shall keep records of compliance with this section and provide them upon the request of Department of Commerce staff or Commission staff.

5.5 Other Requirements

5.5.1 Safety Codes and Design Requirements

The Permittee shall design the transmission line and associated facilities to meet or exceed all relevant local and state codes, the National Electric Safety Code, and North American Electric Reliability Corporation requirements. This includes standards relating to clearances to ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements.

5.5.2 Other Permits and Regulations

The Permittee shall comply with all applicable state statutes and rules. The Permittee shall obtain all required permits for the Transmission Facility and comply with the conditions of those permits unless those permits conflict with or are preempted by federal or state permits and regulations.

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the Commission an Other Permits and Regulations Submittal that contains a detailed status of all permits, authorizations, and approvals that have been applied for specific to the Transmission Facility. The Other Permits and Regulations Submittal shall also include the permitting agency name; the name of the permit, authorization, or approval being sought; contact person and contact information for the permitting agency or authority; brief description of why the permit,

authorization, or approval is needed; application submittal date; and the date the permit, authorization, or approval was issued or is anticipated to be issued.

The Permittee shall demonstrate that it has obtained all necessary permits, authorizations, and approvals by filing an affidavit stating as such and an updated Other Permits and Regulations Submittal prior to commencing construction. The Permittee shall provide a copy of any such permits, authorizations, and approvals at the request of Department of Commerce staff or Commission staff.

6 SPECIAL CONDITIONS

The special conditions shall take precedence over other conditions of this permit should there be a conflict.

6.1 Vegetation Retention

The Permittee may disturb or clear vegetation on the site only to the extent necessary to assure suitable access for construction, and for safe operation and maintenance of the Transmission Facilities. The existing vegetative buffer specifically between the St. Louis County 345 kV/230 kV Substation and Morris Thomas Road must be retained during construction of the Transmission Facilities and for the life of the Transmission Facilities.

6.2 HVDC Converter Station Aesthetics

The Permittee must color its HVDC converter station to blend in with the natural landscape with a neutral color such as a shade of brown or green, or a combination thereof.

6.3 Noise Study

The Permittee must file a pre-construction noise study at least 14 days prior to the pre-construction meeting. The pre-construction noise study must include assumptions made, baseline noise conditions in the area, modeled noise levels, planned minimization and mitigation efforts, and equipment studied. The study must compare modeled noise levels with the State of Minnesota's noise standards (Minn. R. 7030.0040).

6.4 Right-of-Way Restoration Near Trout Streams

The Permittee must restore the right-of-way, forested habitat along existing rights-of-ways, and any rights-of-ways to be decommissioned affected by construction of the Transmission

Facilities. Restoration within the right-of-way near trout streams must be coordinated with DNR fisheries staff to ensure that restoration in these areas provide adequate resource protection.

6.5 Steep Slopes

To avoid indirect impacts to surface waters from steep slopes, increased impervious surfaces, erosion, and altered drainage patterns, the Permittee must use rip rap or a similar material to stabilize steep slopes after construction to ensure the existing drainage pattern remains. The Permittee must maintain a well-vegetated buffer between West Rocky Run Creek and graded areas. The Permittee must keep records of compliance with this section and provide them upon the request of Department of Commerce or Commission staff.

6.6 Facility Lighting

To reduce harm to birds, insects, and other animals, the Permittee must utilize downlit and shielded lighting at all project facilities. Lighting must minimize blue hue. The Permittee must keep records of compliance with this section and provide them upon the request of Department of Commerce or Commission staff.

6.7 Dust Control

To protect plants and wildlife from chloride products that do not break down in the environment, the Permittee is prohibited from using dust control products containing calcium chloride or magnesium chloride during construction and operation. The Permittee must keep records of compliance with this section and provide them upon the request of Department of Commerce or Commission staff.

6.8 Wildlife-Friendly Erosion Control

The Permittee must use only “bionetting” or “natural netting” types and mulch products without synthetic (plastic) fiber additives.

6.9 Vegetation Management Plan

The Permittee must develop and use a vegetation management plan (VMP), in coordination with the Vegetation Management Plan Working Group (VMPWG), using best management practices established by the DNR and BWSR. The Permittee must file the VMP and documentation of the coordination efforts between the Permittee and the coordinating agencies with the Commission at least 14 days prior to the plan and profile required under this Route Permit. The Permittee must provide all landowners along the route with copies of the

VMP. The Permittee must file an affidavit of its distribution of the VMP to landowners with the Commission at least 14 days prior to the plan and profile. The VMP must include, at a minimum, the following:

a) management objectives addressing short term (year 0-5, seeding and establishment) and long term (year 5 through the life of the Project) goals;
b) a description of planned restoration and vegetation activities, including how the route will be prepared, timing of activities, and how seeding will occur (broadcast, drilling, etc.), and the types of seed mixes to be used;
c) A description of tree removal/planting activities and the timing of such activities;
d) a description of how the route will be monitored and evaluated to meet management goals;
e) a description of management tools used to maintain vegetation (*e.g.*, mowing, spot spraying, hand removal, etc.), including timing/frequency of maintenance activities;
f) identification of any third-party (*e.g.*, consultant, contractor, site manager, etc.) contracted for restoration, monitoring, and long-term vegetation management of the site;
g) identification of on-site noxious weeds and invasive species (native and non-native) and the monitoring and management practices to be utilized; and
h) a plan showing how the route will be revegetated and corresponding seed mixes.

Best management practices should be followed concerning seed mixes, seeding rates, and cover crops.

6.10 Independent Third-Party Monitoring

Prior to any construction, the Permittee must propose a scope of work and identify an independent third-party monitor to conduct Transmission Facility construction monitoring on behalf of Commerce. The scope of work must be developed in consultation with and approved by Commerce. This third-party monitor will report directly to and will be under the control of Commerce with costs borne by the Permittee.

The Permittee must file with the Commission the scope of work and the name, address, email, and telephone number of the third party-monitor at least 30 days prior to commencing any construction or right-of-way preparation and upon any change in the scope of work or contact information that may occur during construction of the Project and restoration of the right-of-way.

7 DELAY IN CONSTRUCTION

If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this route permit the Permittee shall file a Failure to Construct Report and the Commission shall consider suspension of this route permit in accordance with Minn. R. 7850.4700.

8 COMPLAINT PROCEDURES

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the Commission the complaint procedures that will be used to receive and respond to complaints. The complaint procedures shall be in accordance with the requirements of Minn. R. 7829.1500 or Minn. R. 7829.1700, and as set forth in the complaint procedures attached to this route permit.

Upon request, the Permittee shall assist Department of Commerce staff or Commission staff with the disposition of unresolved or longstanding complaints. This assistance shall include, but is not limited to, the submittal of complaint correspondence and complaint resolution efforts.

9 COMPLIANCE REQUIREMENTS

Failure to timely and properly make compliance filings required by this route permit is a failure to comply with the conditions of this route permit. Compliance filings must be electronically filed with the Commission.

9.1 Pre-Construction Meeting

Prior to the start of construction, the Permittee shall participate in a pre-construction meeting with Department of Commerce and Commission staff to review pre-construction filing requirements, scheduling, and to coordinate monitoring of construction and site restoration activities. Within 14 days following the pre-construction meeting, the Permittee shall file with the Commission a summary of the topics reviewed and discussed and a list of attendees. The Permittee shall indicate in the filing the anticipated construction start date.

9.2 Plan and Profile

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the Commission, and provide the Department of Commerce, and the counties where the Transmission Facility, or portion of the Transmission Facility, will be constructed with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation,

construction, structure specifications and locations, cleanup, and restoration for the Transmission Facility. The documentation shall include maps depicting the plan and profile including the right-of-way, alignment, and structures in relation to the route and alignment approved per this route permit.

The Permittee may not commence construction until the earlier of (i) 30 days after the pre-construction meeting or (ii) or until the Commission staff has notified the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this route permit.

If the Commission notifies the Permittee in writing within 30 days after the pre-construction meeting that it has completed its review of the documents and planned construction, and finds that the planned construction is not consistent with this route permit, the Permittee may submit additional and/or revised documentation and may not commence construction until the Commission has notified the Permittee in writing that it has determined that the planned construction is consistent with this route permit.

If the Permittee intends to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission, the Department of Commerce, and county staff at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this route permit.

9.3 Status Reports

The Permittee shall file with the Commission monthly Construction Status Reports beginning with the pre-construction meeting and until completion of restoration. Construction Status Reports shall describe construction activities and progress, activities undertaken in compliance with this route permit, and shall include text and photographs.

If the Permittee does not commence construction of the Transmission Facility within six months of this route permit issuance, the Permittee shall file with the Commission Pre-Construction Status Reports on the anticipated timing of construction every six months beginning with the issuance of this route permit until the pre-construction meeting.

9.4 In-Service Date

At least three days before the Transmission Facility is to be placed into service, the Permittee shall notify the Commission of the date on which the Transmission Facility will be placed into service and the date on which construction was completed.

9.5 As-Builts

Within 90 days after completion of construction, the Permittee shall submit to the Commission copies of all final as-built plans and specifications developed during the Transmission Facility construction.

9.6 GPS Data

Within 90 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (*e.g.*, ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the Transmission Facility and each substation connected.

9.7 Right of Entry

The Permittee shall allow Commission designated representatives to perform the following, upon reasonable notice, upon presentation of credentials and at all times in compliance with the Permittee's site safety standards:

(a) To enter upon the facilities easement of the property for the purpose of obtaining information, examining records, and conducting surveys or investigations.
(b) To bring such equipment upon the facilities easement of the property as is necessary to conduct such surveys and investigations.
(c) To sample and monitor upon the facilities easement of the property.
To examine and copy any documents pertaining to compliance with the conditions of this route permit.

10 ROUTE PERMIT AMENDMENT

This route permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this route permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may amend the conditions after affording the Permittee and interested persons such process as is required under Minn. R. 7850.4900.

11 TRANSFER OF ROUTE PERMIT

The Permittee may request at any time that the Commission transfer this route permit to another person or entity (transferee). In its request, the Permittee must provide the Commission with:

(a) the name and description of the transferee;
(b) the reasons for the transfer;
(c) a description of the facilities affected; and
(d) the proposed effective date of the transfer.

The transferee must provide the Commission with a certification that it has read, understands and is able to comply with the plans and procedures filed for the Transmission Facility and all conditions of this route permit. The Commission may authorize transfer of the route permit after affording the Permittee, the transferee, and interested persons such process as is required under Minn. R. 7850.5000.

12 REVOCATION OR SUSPENSION OF ROUTE PERMIT

The Commission may initiate action to revoke or suspend this route permit at any time. The Commission shall act in accordance with the requirements of Minn. R. 7850.5100, to revoke or suspend this route permit.

ATTACHMENT 1
Complaint Handling Procedures for Permitted Energy Facilities

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT HANDLING PROCEDURES FOR
PERMITTED ENERGY FACILITIES

A. Purpose

To establish a uniform and timely method of reporting and resolving complaints received by the permittee concerning permit conditions for site or route preparation, construction, cleanup, restoration, operation, and maintenance.

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

The procedures shall be used for all complaints received by the permittee and all complaints received by the Minnesota Public Utilities Commission (Commission) under Minn. R. 7829.1500 or Minn. R. 7829.1700 relevant to this permit.

D. Definitions

Complaint: A verbal or written statement presented to the permittee by a person expressing dissatisfaction or concern regarding site or route preparation, cleanup or restoration, or other permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written complaint alleging a violation of a specific permit condition that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A complaint which, despite the good faith efforts of the permittee and a person, remains unresolved or unsatisfactorily resolved to one or both of the parties.

Person: An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private; however organized.

E. Complaint Documentation and Processing

1. The permittee shall designate a representative responsible for filing complaints to the Commission's eDocket system. This person's name, phone number and email address shall accompany all complaint submittals. The name and contact information for the representative shall be kept current in eDockets.

2. A person presenting the complaint should, to the extent possible, include the following information in their communications:

    a. name, address, phone number, and email address;
    b. initial date of the complaint;
    c. tract, parcel number, or address of the complaint;
    d. a summary of the complaint; and
    e. whether the complaint relates to a permit violation, a construction practice issue, or other type of complaint.

3. The permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:

    a. docket number and project name;
    b. name of complainant, address, phone number and email address;
    c. precise description of property or parcel number;
    d. name of permittee representative receiving complaint and date of receipt;
    e. nature of complaint and the applicable permit condition(s);
    f. summary of activities undertaken to resolve the complaint; and
    g. a statement on the final disposition of the complaint.

F. Reporting Requirements

The permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit, unless otherwise required below. The permittee shall report all complaints to the Commission according to the following schedule:

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to the Commission's Public Advisor at 1-800-657-3782 (voice messages are acceptable) or publicadvisor.puc@state.mn.us. For e-mail reporting, the email

subject line should read “PUC EFP Complaint” and include the appropriate project docket number.

Monthly Reports: During project construction, restoration, and operation, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be filed by the 15th of each month to Will Seuffert, Executive Secretary, Public Utilities Commission, using the eDockets system. The eDockets system is located at: https://www.edockets.state.mn.us/EFiling/home.jsp. If no complaints were received during the preceding month, the permittee shall file a summary indicating that no complaints were received.

If a project has submitted twelve consecutive months of complaint reports with no complaints, monthly reports can terminate by a letter to eDockets notifying the Commission of such action. If a substantial complaint is received (by the company or the Commission) following termination of the monthly complaint report, as noted above, the monthly reporting should commence for a period of six months following the most recent complaint or upon resolution of all pending complaints.

If a permittee is found to be in violation of this section, the Commission may reinstate monthly complaint reporting for the remaining permit term or enact some other commensurate requirement via notification by the Executive Secretary or some other action as decided by the Commission.

G. Complaints Received by the Commission

Complaints received directly by the Commission from aggrieved persons regarding the permit or issues related to site or route preparation, construction, cleanup, restoration, or operation and maintenance will be promptly sent to the permittee.

The permittee shall notify the Commission when the issue has been resolved. The permittee will add the complaint to the monthly reports of all complaints. If the permittee is unable to find resolution, the Commission will use the process outlined in the Unresolved Complaints Section to process the issue.

H. Commission Process for Unresolved Complaints

Complaints raising substantial and unresolved permit issues will be investigated by the Commission. Staff will notify the permittee and appropriate people if it determines that the

complaint is a substantial complaint. With respect to such complaints, the permittee and complainant shall be required to submit a written summary of the complaint and its current position on the issues to the Commission. Staff will set a deadline for comments. As necessary, the complaint will be presented to the Commission for consideration.

I. Permittee Contacts for Complaints and Complaint Reporting

Complaints may be filed by mail or email to the permittee's designated complaint representative, or to the Commission's Public Advisor at 1-800-657-3782 or publicadvisor.puc@state.mn.us. The name and contact information for the permittee's designated complaint representative shall be kept current in the Commission's eDocket system.

ATTACHMENT 2
Compliance Filing Procedures for Permitted Energy Facilities

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE FOR
PERMITTED ENERGY FACILITIES

A. Purpose

To establish a uniform and timely method of submitting information required by Commission energy facility permits.

B. Scope and Applicability

This procedure encompasses all known compliance filings required by permit.

C. Definitions

Compliance Filing: A filing of information to the Commission, where the information is required by a Commission site or route permit.

D. Responsibilities

1. The permittee shall file all compliance filings with Will Seuffert, Executive Secretary, Public Utilities Commission, through the eDockets system. The eDockets system is located at: https://www.edockets.state.mn.us/EFiling/home.jsp

General instructions are provided on the eDockets website. Permittees must register on the website to file documents.

2. All filings must have a cover sheet that includes:

    a. Date
    b. Name of submitter/permittee
    c. Type of permit (site or route)
    d. Project location
    e. Project docket number
    f. Permit section under which the filing is made
    g. Short description of the filing

3. Filings that are graphic intensive (e.g., maps, engineered drawings) must, in addition to being electronically filed, be submitted as paper copies and on CD. Paper copies and CDs should be sent to: 1) Will Seuffert, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN 55101-2147, and 2) Department of Commerce, Energy Environmental Review and Analysis, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

The Commission may request a paper copy of any electronically filed document.

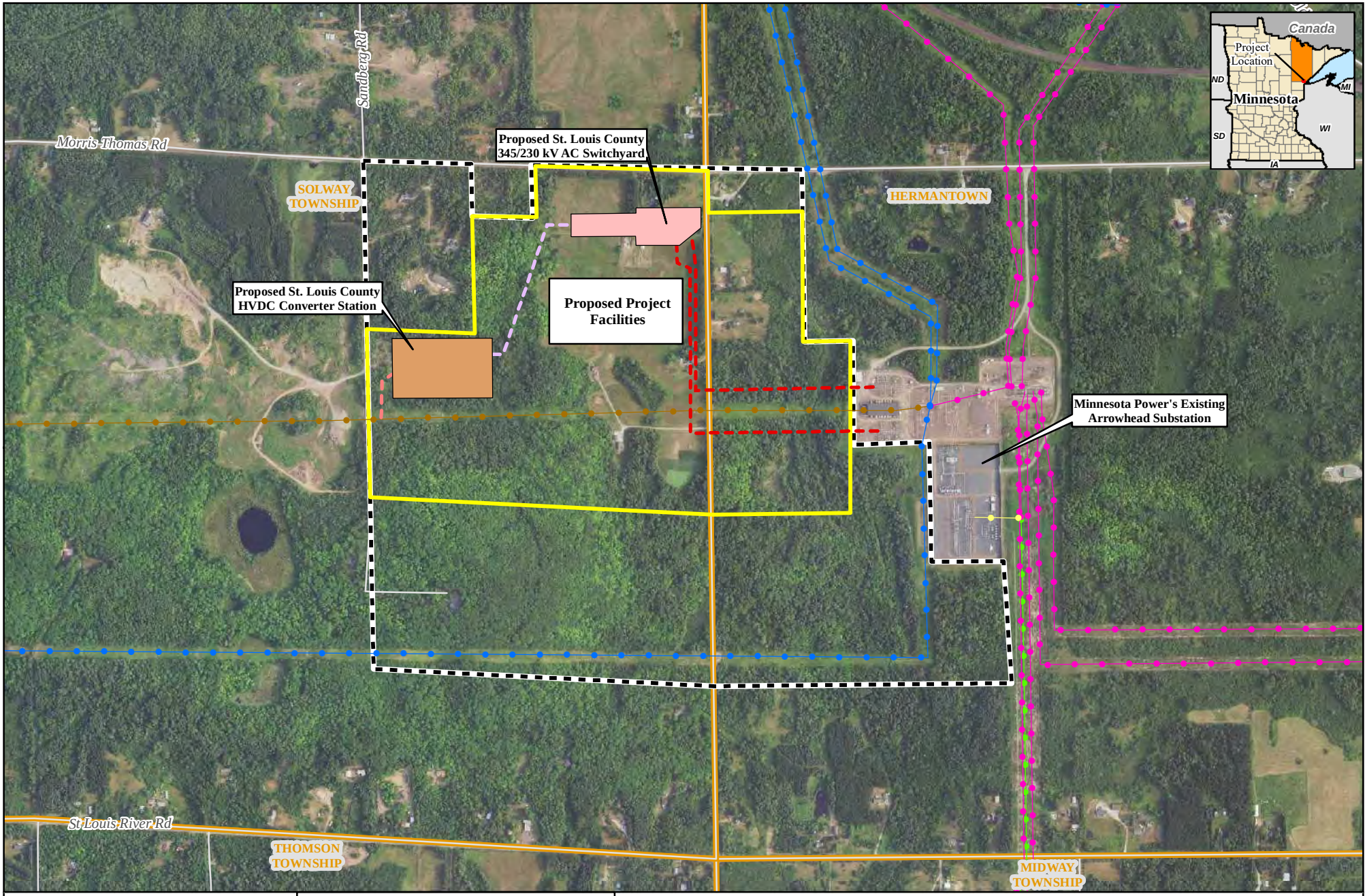
PERMIT COMPLIANCE FILINGS[1]

PERMITTEE:
PERMIT TYPE:
PROJECT LOCATION:
PUC DOCKET NUMBER:

Filing Number	Permit Section	Description of Compliance Filing	Due Date

[1] This compilation of permit compliance filings is provided for the convenience of the permittee and the Commission. It is not a substitute for the permit; the language of the permit controls.

ATTACHMENT 3
Route Permit Maps



0 500 1,000 Feet

1 inch = 1,000 feet

N W E S

Proposed Route
HVDC Modernization Project
St. Louis County, Minnesota

- Proposed St. Louis County – Arrowhead 230 kV AC Lines
- Proposed +/-250 kV HVDC Line Reroute
- Proposed St. Louis County HVDC – St. Louis County AC Switchyard 345 kV Line
- Proposed Route
- Project Study Area
- Municipal Boundary
- Existing 115 kV Transmission Line
- Existing 230 kV Transmission Line
- Existing 250 kV Transmission Line
- Existing 345 kV Transmission Line
- Existing 345kV/115 kV Transmission Line

MPUC Docket No. E-015/CN-22-611

CERTIFICATE OF SERVICE

I, Mai Choua Xiong, hereby certify that I have this day, served a true and correct copy of the following document to all persons at the addresses indicated below or on the attached list by electronic filing, electronic mail, courier, interoffice mail or by depositing the same enveloped with postage paid in the United States mail at St. Paul, Minnesota.

Minnesota Public Utilities Commission
ORDER GRANTING CERTIFICATE OF NEED AND ISSUING ROUTE PERMIT

Docket Number **E-015/CN-22-607 ; E-015/TL-22-611**
Dated this 25th day of October, 2024

/s/ Mai Choua Xiong

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jay	Anderson	jaya@cmpas.org	CMPAS	7550 Corporate Way Suite 100 Eden Prairie, MN 55344	Electronic Service	No	OFF_SL_22-607_Official
Katherine	Arnold	katherine.arnold@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-607_Official
David	Bell	david.bell@state.mn.us	Department of Health	POB 64975 St. Paul, MN 55164	Electronic Service	No	OFF_SL_22-607_Official
James J.	Bertrand	james.bertrand@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-607_Official
Michelle F.	Bissonnette	michelle.bissonnette@hdrinc.com	HDR Engineering, Inc.	Golden Hills Office Center 701 Xenia Ave S Ste 600 Minneapolis, MN 55416	Electronic Service	No	OFF_SL_22-607_Official
B. Andrew	Brown	brown.andrew@dorsey.com	Dorsey & Whitney LLP	Suite 1500 50 South Sixth Street Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_22-607_Official
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	60 S 6th St Ste 1500 Minneapolis, MN 55402-4400	Electronic Service	No	OFF_SL_22-607_Official
PUC	CAO	consumer.puc@state.mn.us	Public Utilities Commission	Consumer Affairs Office 121 7th Place E Suite 350 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-607_Official
Christopher J.	Cerny	ccerny@winthrop.com	Winthrop & Weinstine, P.A.	225 South Sixth Street Suite 3500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-607_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Bill	Cook	bcook@rpu.org	Rochester Public Utilities	4000 East River Road NE Rochester, MN 55906	Electronic Service	No	OFF_SL_22-607_Official
John	Crane	johncranefishing@gmail.com	Fishing	1250 Wee Gwaus DR SW Bemidji, MN 56601	Electronic Service	No	OFF_SL_22-607_Official
George	Crocker	gwillc@nawo.org	North American Water Office	5093 Keats Avenue Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_22-607_Official
Thomas	Davis	atdavis1972@outlook.com	-	1161 50th Ave Sherburn, MN 56171	Electronic Service	No	OFF_SL_22-607_Official
Randall	Doneen	randall.doneen@state.mn.us	Department of Natural Resources	500 Lafayette Rd, PO Box 25 Saint Paul, MN 55155	Electronic Service	No	OFF_SL_22-607_Official
John	Drawz	jdrawz@fredlaw.com	Fredrikson & Byron, P.A.	Suite 1500 60 South Sixth Street Minneapolis, MN 55402-4400	Electronic Service	No	OFF_SL_22-607_Official
Adam	Duininck	aduininck@ncsrcc.org	North Central States Regional Council of Carpenters	700 Olive Street St. Paul, MN 55130	Electronic Service	No	OFF_SL_22-607_Official
Cory	Dutcher	cory.dutcher@ge.com	GE Power and Water	1 River Rd. Bldg. 37-413 Schenectady, NY 12345	Electronic Service	No	OFF_SL_22-607_Official
Kristen	Eide Tollefson	healingsystems69@gmail.com	R-CURE	28477 N Lake Ave Frontenac, MN 55026-1044	Electronic Service	No	OFF_SL_22-607_Official
Kate	Fairman	kate.fairman@state.mn.us	Department of Natural Resources	Box 32 500 Lafayette Rd St. Paul, MN 551554032	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Annie	Felix Gerth	annie.felix-gerth@state.mn.us		Board of Water & Soil Resources 520 Lafayette Rd Saint Paul, MN 55155	Electronic Service	No	OFF_SL_22-607_Official
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_22-607_Official
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Todd	Green	Todd.A.Green@state.mn.us	Minnesota Department of Labor & Industry	443 Lafayette Rd N St. Paul, MN 55155-4341	Electronic Service	No	OFF_SL_22-607_Official
Valerie	Herring	vherring@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 S. Eighth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-607_Official
Kari	Howe	kari.howe@state.mn.us	DEED	332 Minnesota St, #E200 1ST National Bank Bldg St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-607_Official
Scott	Johnson	Scott.Johnson@ci.medina.mn.us	City of Medina	2052 County Road 24 Medina, MN 55340-9790	Electronic Service	No	OFF_SL_22-607_Official
Tom	Karas	tomskaras@gmail.com		3171 309th Ave NW Cambridge, MN 55008	Electronic Service	No	OFF_SL_22-607_Official
Bruce	King	Brenda@ranww.org	Realtors, Association of Northwestern WI	Suite 3 1903 Keith Street Eau Claire, WI 54701	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Stacy	Kotch Egstad	Stacy.Kotch@state.mn.us	MINNESOTA DEPARTMENT OF TRANSPORTATION	395 John Ireland Blvd. St. Paul, MN 55155	Electronic Service	No	OFF_SL_22-607_Official
Amber	Lee	amber.lee@stoel.com	Stoel Rives LLP	33 S. 6th Street Suite 4200 Minneapolis, MN 55402	Electronic Service	Yes	OFF_SL_22-607_Official
Peter E.	Madsen	pmadsen@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 South 8th Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-607_Official
Dawn S	Marsh	dawn_marsh@fws.gov	U.S. Fish & Wildlife Service	Minnesota-Wisconsin Field Offices 4101 American Blvd E Bloomington, MN 55425	Electronic Service	No	OFF_SL_22-607_Official
Dan	McCourtney	dmccourtney@mnpower.com	Minnesota Power	30 West Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_22-607_Official
Greg	Merz	greg.merz@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-607_Official
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_22-607_Official
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
James	Mortenson	james.mortenson@state.mn.us	Office of Administrative Hearings	PO BOX 64620 St. Paul, MN 55164-0620	Electronic Service	Yes	OFF_SL_22-607_Official
Colleen	Mueller	N/A		22186 State Hwy 4 Paynesville, MN 56362	Paper Service	No	OFF_SL_22-607_Official
Dan	Nelson	Dan.Nelson@ISGinc.com	I&S Group	115 E Hickory St Ste 300 Mankato, MN 56001	Electronic Service	No	OFF_SL_22-607_Official
Carol A.	Overland	overland@legalectric.org	Legalectric - Overland Law Office	1110 West Avenue Red Wing, MN 55066	Electronic Service	No	OFF_SL_22-607_Official
Kevin	Peterson	kjp@ibew160.org	IBEW Local 160	1109 Northway Lane NE Rochester, MN 55906	Electronic Service	No	OFF_SL_22-607_Official
Angela	Piner	angela.piner@hdrinc.com	HDR, Inc.	Suite 600 701 Xenia Avenue South Suite 600 Minneapolis, MN 55416	Electronic Service	No	OFF_SL_22-607_Official
Larry	Rebman	larryemls@hotmail.com	EMLS, Inc	PO Box 122 Appleton, MN 56208	Electronic Service	No	OFF_SL_22-607_Official
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_22-607_Official
Margaret	Rheude	Margaret_Rheude@fws.gov	U.S. Fish and Wildlife Service	Twin Cities Ecological Services Field Office 4101 American Blvd. E. Bloomington, MN 55425	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Stephan	Roos	stephan.roos@state.mn.us	MN Department of Agriculture	625 Robert St N Saint Paul, MN 55155-2538	Electronic Service	No	OFF_SL_22-607_Official
Nathaniel	Runke	nrunke@local49.org	International Union of Operating Engineers Local 49	611 28th St. NW Rochester, MN 55901	Electronic Service	No	OFF_SL_22-607_Official
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Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_22-607_Official
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Mark	Strohfus	mstrohfus@grenergy.com	Great River Energy	12300 Elm Creek Boulevard Maple Grove, MN 553694718	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_22-607_Official
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Jayme	Trusty	execdir@swrdc.org	SWRDC	2401 Broadway Ave #1 Slayton, MN 56172	Electronic Service	No	OFF_SL_22-607_Official
Jen	Tyler	tyler.jennifer@epa.gov	US Environmental Protection Agency	Environmental Planning & Evaluation Unit 77 W Jackson Blvd. Mailstop B-19J Chicago, IL 60604-3590	Electronic Service	No	OFF_SL_22-607_Official
Kodi	Verhalen	kverhalen@taftlaw.com	Taft Stettinius & Hollister LLP	80 S 8th St Ste 2200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-607_Official
Cynthia	Warzecha	cynthia.warzecha@state.mn.us	Minnesota Department of Natural Resources	500 Lafayette Road Box 25 St. Paul, MN 55155-4040	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Alan	Whipple	sa.property@state.mn.us	Minnesota Department Of Revenue	Property Tax Division 600 N. Robert Street St. Paul, MN 551463340	Electronic Service	No	OFF_SL_22-607_Official
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Jonathan	Wolfgram	Jonathan.Wolfgram@state.mn.us	Office of Pipeline Safety	445 Minnesota St Ste 147 Woodbury, MN 55125	Electronic Service	No	OFF_SL_22-607_Official
David	Zoppo	david.zoppo@huschblackwell.com	American Transmission Company LLC	33 East Main Street Suite 300 Madison, WI 53703	Electronic Service	No	OFF_SL_22-607_Official
David	Zoppo	DZoppo@perkinscoie.com	Perkins Coie LLP	33 E Main Street Suite 201 Madison, WI 53703	Electronic Service	No	OFF_SL_22-607_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Katherine	Arnold	katherine.arnold@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-611_Official
Christopher J.	Cerny	ccerny@winthrop.com	Winthrop & Weinstine, P.A.	225 South Sixth Street Suite 3500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-611_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_22-611_Official
Adam	Duininck	aduininck@ncsrcc.org	North Central States Regional Council of Carpenters	700 Olive Street St. Paul, MN 55130	Electronic Service	No	OFF_SL_22-611_Official
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_22-611_Official
Lucas	Franco	lfranco@liunagroc.com	LIUNA	81 Little Canada Rd E Little Canada, MN 55117	Electronic Service	No	OFF_SL_22-611_Official
Amber	Lee	amber.lee@stoel.com	Stoel Rives LLP	33 S. 6th Street Suite 4200 Minneapolis, MN 55402	Electronic Service	Yes	OFF_SL_22-611_Official
Dan	McCourtney	dmccourtney@mnpower.com	Minnesota Power	30 West Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_22-611_Official
Greg	Merz	greg.merz@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-611_Official
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_22-611_Official

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James	Mortenson	james.mortenson@state.mn.us	Office of Administrative Hearings	PO BOX 64620 St. Paul, MN 55164-0620	Electronic Service	Yes	OFF_SL_22-611_Official
Carol A.	Overland	overland@legalectric.org	Legalectric - Overland Law Office	1110 West Avenue Red Wing, MN 55066	Electronic Service	No	OFF_SL_22-611_Official
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_22-611_Official
Nathaniel	Runke	nrunke@local49.org	International Union of Operating Engineers Local 49	611 28th St. NW Rochester, MN 55901	Electronic Service	No	OFF_SL_22-611_Official
Elizabeth	Schmiesing	eschmiesing@winthrop.com	Winthrop & Weinstine, P.A.	225 South Sixth Street Suite 3500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-611_Official
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_22-611_Official
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	7400 Lyndale Ave S Ste 190 Richfield, MN 55423	Electronic Service	Yes	OFF_SL_22-611_Official
Charles	Sutton	charles@suttonconsultingllc.com		1389 Hoyt Ave W Falcon Heights, MN 55108	Electronic Service	No	OFF_SL_22-611_Official
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_22-611_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Kodi	Verhalen	kverhalen@taftlaw.com	Taft Stettinius & Hollister LLP	80 S 8th St Ste 2200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-611_Official
Cynthia	Warzecha	cynthia.warzecha@state.mn.us	Minnesota Department of Natural Resources	500 Lafayette Road Box 25 St. Paul, MN 55155-4040	Electronic Service	No	OFF_SL_22-611_Official
David	Zoppo	DZoppo@perkinscoie.com	Perkins Coie LLP	33 E Main Street Suite 201 Madison, WI 53703	Electronic Service	No	OFF_SL_22-611_Official
David	Zoppo	david.zoppo@huschblackwell.com	American Transmission Company LLC	33 East Main Street Suite 300 Madison, WI 53703	Electronic Service	No	OFF_SL_22-611_Official