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PUC: E-015/CN-22-607  
E-015/TL-22-611

STATE OF MINNESOTA  
OFFICE OF ADMINISTRATIVE HEARINGS  
FOR THE  
PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Minnesota  
Power for a Certificate of Need 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

PARTICIPANT  
PUBLIC COMMENT  
OF  
WORLD ORGANIZATION  
FOR LANDOWNER FREEDOM

World Organization for Landowner Freedom, hereinafter “W.O.L.F.” is grateful for the opportunity to submit comments in these dockets, and hereby offers this Public Comment as a Participant in these above-captioned dockets.<sup>1</sup>

The Minnesota Public Utilities Commission must allow and foster public participation:

The commission shall adopt broad spectrum citizen participation as a principal of operation. The form of public participation shall not be limited to public hearings and advisory task forces and shall be consistent with the commission's rules and guidelines as provided for in section [216E.16](#).

Minn. Stat. §216E.08 Public Participation. The Commission’s charge is clear.

These Public Utilities Commission dockets were opened for the express purpose of the Commission’s review of an application by Minnesota Power (hereinafter “Applicant MP”) to replace, to “modernize,” its aging substation equipment on the Minnesota terminus of its DC

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<sup>1</sup> Minn. Stat. §216E.8, Subd. 2; Minn. R. 7850.3800; 7829.0900; 1400.7150; 1405.0800 Because transcripts of the evidentiary hearing are not yet available, a brief utilizing transcripts will be filed by the deadline for Initial Briefs, Friday, May 3, 2024.<sup>1</sup>This writer had every intent of participating in the March 19, 2024, but overdoing it the week of the Public Hearing with a popped hamstring and the Physical Therapy for that, and removal of partner’s IV Port for completed leukemia treatments meant that just wasn’t possible that Tuesday of the Evidentiary Hearing -- life got in the way.

transmission line from Center, North Dakota<sup>2</sup>. In a September 15, 2023 late-filed “comment” on the scope of environmental review, American Transmission Company (hereinafter “ATC”) displayed extreme corporate arrogance when it proposed an “alternative” to Applicant MP’s project that removes the project from MP’s purpose and control and which flagrantly mocks the point of the EQB’s 800 MVA limitation of bulk power transfer. ATC does not comply with the requirements of the EQB’s Exemption Order of March 19, 2001. MP-Winter-Direct-Schedule 31. Each aspect of the MP project, other than the updated converters, was changed, the transmission route/configuration, and the interconnection point at Arrowhead substation.

Under the Commission’s rules, because this first “alternative” filing was late per the Commission’s Notice, and because the proposal in this filing is prejudicial to Minnesota Power, and because Minnesota Power did request it not be considered, it should not be considered as an “alternative” by the Commission. Yet it has been added to the mix. ATC did not label the September 15, 2023 filing as “late filed” and did not “include a statement explaining why the filing was untimely and why it should not be excluded by the commission.” Minn. R. 7829.0420, Subd. 1, 2. ATC’s “alternative” is essentially a new, separate, project, one that does not fulfil the purpose as laid out by MP. In acquiescing to ATC’s demands for inclusion of its alternative, and despite failure of ATC to provide supporting documentation that’s required of applicants, Commerce inexplicably stated in its initial scoping recommendation:

With respect to the scope of the EA and alternative routes for the project, EERA staff recommends studying the ATC Alternative proposed during scoping to develop a more robust record for the Commission’s decisions.

Commerce EERA October 5, 2023 letter to PUC, and PUC’s briefing papers stated:

... staff agrees with DOC EERA’s conclusion that Minnesota Power’s proposed route, including the expanded route width identified in its September 13, 2023 filing, and the Arrowhead Alternative proposed by ATC should be included in the

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<sup>2</sup> See MP Application, Section 1.2, p. 2, Section 3.1, p. 20. See also pps. 20-32.

EA scoping decision. Staff believes that the Commission's decision will be better informed by a more robust evaluation of the potential impacts of both substations and their associated tie-lines.

PUC Briefing Papers, p.12.

Given the rules regarding filings, this "alternative" should not have been accepted by Commerce and should not be considered by the ALJ or the Commission. The PUC's procedural rules apply to everyone, even American Transmission Company.

ATC's "alternative" would alter Applicant MP's project to shift MP's interconnection from the MP planned new substation to a reconfigured ATC Arrowhead substation, perverting the project by essentially taking the project out of MP's hands, and transferring the project to ATC. Embedded in this ATC "alternative" is a plan to circumvent the Arrowhead substation's permit condition of an 800 MVA power transfer limitation<sup>3</sup>, a benefit to ATC and a detriment to Minnesota Power. ATC's "alternative" would allow for expansion of the ATC substation, removal of the power-shifting transformer, and without legal authority, ignoring the EQB's March 19, 2001 Order and allowing increased transfers of power into Wisconsin. This is contrary to Applicant MP's purpose and intent of its project as applied for and is contrary to the conditions of the permit exemption order for the Arrowhead substation and transmission line.

The focus of WOLF's concern, since 1999 Arrowhead application, is the 800 MVA power flow limitation. When Arrowhead-Weston was proposed in 1999, utilities claimed it was the result of the Wisconsin Reliability Assessment Project Report, which documented the rationale of selection of "3j," the Arrowhead-Weston transmission project, from many studied potential transmission projects. This justification of the Arrowhead-Weston project was based on the concept that it was the be-all and end-all of transmission projects into Wisconsin – and that

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<sup>3</sup> See Winter Direct, Schedule 31 EQB Order, March 19, 2001; Schedule 32 OAH Recommendation; Schedule 33 Transcript of EQB Meeting; Schedule 34 MPCA Commissioner Memo re 800 MVA.

was the goal, bulk power transfers into Wisconsin. Despite Arrowhead-Weston 3j's selection, since that time, most of the potential transmission projects rejected in that report have been applied for and built!<sup>4</sup>

Now, 25 years later, ATC is making repeated threats of removal of the 800 MVA limitation, a condition present since the 2001 original exemption granted by the Environmental Quality Board, with no legal basis to do so. The transcript provided by MP's Winter shows the reason as a preventative measure to put a limit on potential coal generation and hence coal generator emissions. Since that time, no coal plants at the other end of the Minnesota Power transmission line have been shuttered. While ATC talks of efforts to retire coal, Commerce's Zajicek notes that the concern reflected in the March 19, 2001 EQB transcript was increasing power flows to Wisconsin, that he does not know of any coal plants in North Dakota that have been shut down, and admits that North Dakota is a "very pro-coal." See Winter MP Direct Ex. 33; Public Hearing Tr. at . 47:7-18. The Coal Creek plant, once scheduled to close, was, contrary to plan, sold and remains open.<sup>5</sup> WOLF Ex. 4, .

The Minnesota Public Utilities Commission and Commerce-EERA convention has been to comply with environmental review rules and accept and review only alternatives which serve the purpose of the project proposed by an applicant. Minn. R. 4410.2300(G). Commerce-EERA and the PUC have diverted from that practice – ATC's "alternative" does not fulfill Applicant MP's purpose, need, or use for the project and/or does not meet the full need identified by an Applicant. It does the opposite, and is a totally separate project. Despite it being a separate project, ATC has not applied for a Certificate of Need for its project, nor has it provided the

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<sup>4</sup> See WOLF Ex. 6, the Wisconsin Reliability Assessment Project Report.

<sup>5</sup> Wolf Ex. 4, "Burgum, Sanford laud historic transfer of Coal Creek Station, transmission line to Rainbow Energy, Nexus Line," and many other articles available on line regarding this sale and continuing of coal generation in ND.

content requirements required for a Certificate of Need. Minn. Stat. §216B.243; Minn. R. 7849.0240 and 7829.0260-.0340. ATC has not applied for an exemption for content requirements. Exemption Minn. R. 7849.0200, Subp. 6.<sup>6</sup> ATC has not made a joint application with Minnesota Power for this “joint” project. ATC has not filed a route application.

In addition to the regulatory omissions, ATC’s “alternative” also appears to conflict with the provisions of its Transmission Interconnection Agreement and Modification Agreement with Minnesota Power.<sup>7</sup> Further, ATC’s “alternative” is propped up by a number of demonstrably false, incorrect, and misleading assumptions and assertions regarding the Arrowhead substation and the conditions of the Environmental Quality Board’s March 19, 2001 Order with Conditions.

ATC has not demonstrated that its “alternative” is a more reasonable and prudent alternative to Minnesota Power’s proposed facility. The Administrative Law Judge and the Commission should reject consideration of ATC’s “alternative” and ATC’s proposed removal of the Environmental Quality Board’s condition of an 800 MVA limitation out of hand.

I. **ATC PROPOSES AS “ALTERNATIVE” A PLAN THAT UNILATERALLY USURPS MP’S CONTROL OVER ITS PLAN FOR ITS TRANSMISSION LINE AND ITS ENERGY**

In its filings with the Public Utilities Commission, ATC has unilaterally proposed a modification to MP’s proposed “HVDC Modernization Project,” and, as apparent in the Certificate of Need and Routing dockets, has expended significant effort and resources to promote its plan. ATC and MP signed an Operating and Maintenance Services Agreement and a

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<sup>6</sup> See also MP’s “Request for Exemptions from Certain Certificate of Need Application Content Requirements,” filed 11/30/2022 ([202211-190996-01](#)).

<sup>7</sup> See WOLF Ex. 7, Minnesota Power’s February 6, 2008 cover sheet and Attachments D – Operating and Maintenance Services Agreement, and Attachment E – Transmission Interconnection Agreement by and among Minnesota Power, American Transmission Company LLC and the Midwest Independent Transmission System Operator, Inc., addressed below.

Transmission Interconnection Agreement which both contain terms regarding notice, compliance with laws, and that modifications must not adversely affect a party's transmission system.

WOLF eFiled the Operating and Maintenance Services Agreement, and the Transmission Interconnection Agreement, by and among Minnesota Power, American Transmission Company LLC and the Midwest Independent Transmission System Operator, Inc. This filing was originally eFiled ([4928171](#)) in docket E015/PA-04-2020, In the Matter of Minnesota Power's Petition for Review of an Agreement between Minnesota Power and American Transmission Company transferring ownership of the Arrowhead Substation to ATC.

These agreements are important in the context of this current Minnesota Power Application and ATC's insertion of its "alternative" in these dockets. For example, the Operating and Maintenance Services Agreement addresses relevant terms applicable to this situation of ATCs making. See Wolf Ex. 7, Operating and Maintenance Services Agreement, Performance Standards, D, and p. 28, XIII Miscellaneous, "Compliance with Law."

According to ATC's Dagenais:

If the MPUC ordered implementation of the Arrowhead Substation Alternative, then ATC and MP would need to amend this agreement to reflect the implementation of that alternative, which would likely only take a few business days.

ATC-Dagenais Direct, p. 40.

**D. All Services, Including Maintenance Services.**

1. ATC shall direct MP's performance of the Services and otherwise perform all of its obligations under this Agreement, in accordance with the following performance standards:
  - a. Good Utility Practice;
  - b. Manufacturers' recommendations and in a manner that will preserve all manufacturers' warranties for the benefit of ATC;
  - c. All applicable federal, state and local statutes, ordinances, rules and regulations in effect at the time the Services are performed;
  - d. Any and all applicable permits, licenses or other similar rights granted in connection with the Services or the ATC Minnesota Transmission Facilities; and

### XIII. MISCELLANEOUS

#### A. Compliance with Laws.

Each Party shall perform its obligations hereunder in compliance with all then-applicable federal, state and local statutes, ordinances, rules and regulations, including, but not limited to those pertaining to human safety, protection of property, non-discrimination, FERC Standards of Conduct and protection of the environment.

There is no wiggle room allowing ATC to propose for certification and permitting an “alternative” that is contrary to the Operations agreement and the EQB Order Finding of Fact 2 and Order point 10. There does not seem to be an exception allowing ATC to insert itself into a Minnesota Power application proceeding and advocate for a project with different purpose and effect than that of the Minnesota Power proposal.

The Transmission Interconnection Agreement defines Modification, and ATC’s proposal fits within that definition:

- 1.19 “Modification” means any material, new construction, additions, design changes or modifications made to, or the abandonment, retirement, relocation or rearrangement of, the ATCLLC Transmission System or the MP Transmission System at the Point of Interconnection, after the Effective Date of this Agreement.

The agreement also specifically requires Notice and that a project modification “not adversely affect a Party’s transmission system.”

- 7.2. **Notice.** In the event any Transmission-Owning Party plans to undertake Modifications or Operational Changes to its Interconnection Facilities that reasonably may be expected to impact any other Party’s transmission system, the initiating Party shall provide the other Parties with at least ninety (90) days advance notice of the desired Modifications or Operational Changes. The nature of and the schedule of work for performing such Modifications, or the nature of the Operational Changes shall be subject to review and written acceptance by the other Parties, which review and acceptance shall not be untimely nor unreasonably withheld or delayed, to ensure that such Modifications or Operational Changes will (a) not adversely affect a Party’s transmission system, or other facilities, (b) are consistent with Good Utility Practice, and (c) are as provided in Appendix A of this Agreement. Subject to all applicable requirements imposed by Midwest ISO, the suitability and the responsibility for the safe and adequate design, operation and maintenance of the initiating Party’s facilities shall be and remain the sole obligation of the initiating Party.

ATC would be hard pressed to legitimately argue that its proposal does not “adversely affect a party’s transmission system.”

There is no agreement between ATC and MP to go forward with ATC's plan, and there's been no demonstration that ATC's "alternative" is a legitimate alternative to MP's project plan and transmission system without an adverse impact to Minnesota Power.

**II. ATC'S "ALTERNATIVE" IS PROCEDURALLY AND SUBSTANTIVELY IRREGULAR AND DOES NOT COMPORT WITH APPLICANT MP'S PURPOSE FOR ITS PROJECT.**

ATC's "alternative" was accepted by Commerce-EERA despite its untimely filing and despite its usurpation and abuse of the Commission's process, taking the project from MP and using it instead for its own gain. In working its "alternative" for its gain, ATC proposes a system alternative, and an alternative not suitable within MP's project. The "alternative" as proposed by ATC, when compared with the project as proposed by MP, changes the short route, and more importantly, changes the point of interconnection, and if allowed, increasing transfer of power beyond that permitted. As proposed, this "alternative" becomes a separate and distinct ATC project, one that, ATC should plan for and apply for a Certificate of Need and a Route Permit.

ATC did not apply for a Certificate of Need, and ATC did not apply for a Route Permit. In fact, this "alternative" is not a project contemplated by ATC as recently as its updated 10 Year Plan, See WOLF Ex. 2. ATC's 10 Year Plan was updated on January 15, 2024, months after ATC proposed this "alternative." This ATC "alternative" was a last minute, untimely, slap-dash effort, filed after the Comment deadline, without sufficient information to be taken seriously.

The Commission extended the Comment period for "residents that are farther than ¼ mile outside of the project boundary. See Notice, September 12, 2023. Although the Notice did ask residents to address the question "Are there other ways to meet the stated need for the project, for example, a different size project or a different type of facility? If so, what alternatives to the project should be studied in the EA?" and it did not reference the applicant's purpose, the

late-filed procedurally and substantively irregular “alternative” filed by a foreign company and not a resident should have been brought forward into the EA, and should not be considered by the ALJ or the Commission.

**III. THE TESTIMONY OF DAGENAIS IS NOT CREDIBLE AND SHOULD BE DISCOUNTED**

ATC’s Dagenais spends many pages testifying about proceeding with its “alternative,” about the many electrical studies it has completed, removal and decommissioning of the phase shifting transformer,

**a. ATC MISTATES AND CONFLATES THE PURPOSE OF THE EQB’S ARROWHEAD-WESTON PERMIT’S 800MVA LIMITATION WHILE CLAIMING IT IS OBSOLETE .**

The most bizarre notion propagated by Dagenais is that the 800 MVA limitation is to mitigate noise! He testifies, without citation, that:

ATC’s understanding is that, when the EQB initially imposed the 800 MVA limit in 2001, it did so to mitigate potential noise impacts from the substation on the surrounding community. As described in 1 ATC witness Tobin Larsen’s testimony, ATC has since installed 24-foot concrete walls around the perimeter of this substation and will be retiring the phase shifting transformer, which will help mitigate noise in the future; ATC could also conduct noise studies during detailed project engineering to evaluate whether sound from the substation will exceed applicable limits and (if so) develop mitigation measures, to the extent necessary and feasible.

ATC Dagenais Direct, p. 38-39. Where did this “understanding” come from? It is patently false.<sup>8</sup>

MP’s Winter’s Schedules 31, 32, 33, and 34 show that it is bulk power transfer, and that claiming it is noise is absurd. That is particularly offensive to this writer, as I was there, making the argument to the EQB to prevent bulk power transfer.

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<sup>88</sup> See MP-Winter Direct, Schedule 31 EQB Order, March 19, 2001; Schedule 32 OAH Recommendation; Schedule 33 Transcript of EQB Meeting; Schedule 34 MPCA Commissioner Memo re 800 MVA. In particular, See Schedule 24, and the discussion in Schedule 33, p. 9 explaining the condition, p. 80 the requirement of coming back to EQB (now PUC) to raise the MVA, and p. 86 for the unanimous vote approving MP’s Exemption with the MPCA Commissioner Studders amendment.

Most participating in these utility regulatory matters were not present at the time of the Arrowhead Transmission Project's Exemption Order in 2001, so it's repeated here and that full Order is attached as MP-Winter Schedule 31. The EQB Order stated, regarding the 800 MVA limitation:

2. The second bullet of Finding No. 11 is amended to read and a new footnote 18A is added to read:

Adding four single-phase 345/230 kilovolt transformers to interface with the 345 kV line. These transformers step up the voltage from 230 kV to 345 kV. The approximate rating of these transformers is 800 MVA. [18A]

18A. Transcript at 1874.

10. Minnesota Power shall apply to the Minnesota Environmental Quality Board under section 116C.57 for authorization to make any changes in the Arrowhead substation that would allow Minnesota Power to increase the capability of the substation to transmit power over the transmission line beyond 800 MVA.

See Attachment A, pages 1-20 of Minnesota Power's September 29, 2023 Response to ATC, MP's Attachment 1, 2001 EQB Order, pps. 16-20.

W.O.L.F.'s concern about preservation of the 800 MVA limitation was raised by the unprecedented actions and filings of ATC and its promotion of an "alternative" that would circumvent the 800 MVA limitation and defeat the purpose of that EQB limitation, gutting the EQB's Order, and doing so without consideration of the legalities of such acts. In MP's letter of September 29, 2023, it laid out the varied impacts should ATC's "alternative" go forward. W.O.L.F.'s concern was further heightened by the Commission's November 29, 2023 Order and Commerce-EERA's December 27, 2023 inclusion of ATC's late-filed "alternative" as an alternative to be considered in environmental review. ATC has repeatedly, in its testimony, stated its intent to "remove and decommission" the MVA limiting phase-shifting transformer.

Why is this 800 MVA limitation important? Again, the purpose of that capacity limitation was to assure that the Arrowhead-Weston Transmission Project was not for the purpose of bulk power transfer of coal generation from the North Dakota coal plants, a prescient restriction in 2001. For example, prevention of bulk power transfer was clearly argued by WOLF and others:

The 1998 service interruption and the system disturbances in 1997 and 1999 were cited by both MP and Commerce as demonstrating the need for an additional 345 kV connection between MAPP and MAIN. MP maintains that the proposed Arrowhead project will improve the performance of the electrical grid between Minnesota and Wisconsin. On the other hand, WOLF asserted that:

The transmission crisis is a crisis of the utilities' making through their "increased market transactions" in their desire to move all the power they can sell, overloading lines for bulk transfer and putting local loads and the grid in jeopardy.<sup>[166]</sup>

MP-Winter Direct, Schedule 32, Recommendation of ALJ, referencing the transmission operators failure to effectively address the pending crash of most of the Eastern Interconnect on June 25, 1998. WOLF Ex. 5, MAPP June 25 Disturbance. W.O.L.F. Exhibit 5, the Mid-Continent Area Power Pool (MAPP) report on the June 25, 1998 "disturbance" is particularly important because each of the Arrowhead-Weston applicants' electrical witnesses were misstating the cause and meaning of the June 25, 1998 outage when the King-Eau Claire Arpin transmission line tripped due to operator overload beyond the King-Eau Claire-Arpin operating guide, causing transmission lines across the Midwest to trip and sending generators off line. WOLF entered this MAPP report during the January hearing as WI-PSC WOLF Exhibit 189. This report was crucial because repeatedly, applicants' witnesses testified that the Arrowhead-Weston transmission line was necessary because of the massive blackout of June 25, 1998 with laughingly histrionic predictions of blackouts, including testimony that we'd freeze in the dark, and there's be no electricity for hospitals' incubators and respirators. The claim was that the system was in dire condition, that the June 25, 1998 outage demonstrated the inadequacy of the

system and the need for Arrowhead-Weston. See Winter Direct Schedule 33, argument of MP's Amberg. Minnesota Power and Wisconsin Public Service grossly overstated their case.

The 800 MVA limitation of energy flowing through the phase shifting transformer in the Arrowhead substation into Wisconsin is stated twice in the EQB Order, and this limitation is both as a matter of physics -- an electrical transformer rating, and as a matter of law -- a limitation that may not be exceeded without an application to exceed that capacity. ATC's Dagenais does not deal with either the electrical nor legal basis for the order, other than to say it's "obsolete." Dagenais Rebuttal, p. 48.

The EQB's 2001 Order was filed in the HVDC Modernization Project dockets by Minnesota Power, and then W.O.L.F., and it is attached again at the end of Attachment A, Minnesota Power's Response to ATC<sup>9</sup>. This Order point rings loudly in light of ATC's attempt to blatantly circumvent that limitation.

Given the record thus far in the HVDC Modernization Project dockets, there should be no confusion about the meaning of "800 MVA limitation." The 800 MVA limitation at the Arrowhead substation and the history and rationale for this limitation were carefully explained by Minnesota Power in its September 29, 2023 Response to ATC.<sup>10</sup> The EQB Order is also found in MP-Winter's Direct schedule 31-34s. The "800 MVA" limitation is specifically cited eight (8) times in MP's Response<sup>11</sup> to ATC, with narrative carefully expounding in page after single-spaced page of explanation of the 800 MVA limitation and various nuances of it related to ATC's "alternative" proposal. Subsequently filed testimony repeats the theme. ATC's plan to eliminate the 800MVA limitation is unsupported bluster. Nowhere in his testimony is any

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<sup>9</sup> See pages 1-20 of Minnesota Power's September 29, 2023 Response to ATC.

<sup>10</sup> See MP's September 29, 2023 Response to ATC, pps. 2-4 filed in these two dockets, plus pps. 3, 6, 7, 8, 10, 11.

<sup>11</sup> Id., pps. 3, 6, 7, 8(x2), 10 and 11.

citation to any authority allowing removal of the EQB's 800 MVA powerflow limitation. The record supports maintenance of the 80 MVA limitation of bulk power transfer.

**b. DAGENAIS PROVIDES NO BASIS FOR HIS BELIEF THAT ATC CAN UNILATERALLY LEGALLY REMOVE AND DECOMMISSION PHASE SHIFTING TRANSFORMER THAT LIMITS POWERFLOW ON THE LINE**

Moving on to hardware at the Arrowhead substation, any electrical hardware in a substation can be removed, but just because it can does not mean that it is legal to remove it.

In his testimony, Dagenais repeatedly advocates removing and decommissioning the phase shifting transformer (PST), beginning early in his testimony simply stating:

Within the substation, ATC would also add a new 345/230 kV transformer, remove and decommission the existing 230 kV phase shifting transformer (PST), remove and decommission the existing 345 kV capacitor banks, and perform other miscellaneous work.

ATC-Dagenais Direct, p. 9; see also ATC-Larson-Direct, p. 7 and Schedule 3.

There is no explanation by Dagenais as to why phase angle is no longer an issue and why a phase-shifting transformer is not needed. Dagenais also relies heavily on MISO, but as the MAPP June 25, 1998 Disturbance Report shows, there are times when human communications and electricity and electronics can fail, and limiting hardware can be useful.

For modeling, Dagenais states that they altered the model, "retiring the existing Arrowhead phase-shifting transformer (PST) and 345 kV capacitor banks at that substation." Id., p. 19. Several pages down, he states, "This analysis did assume retirement of the existing Arrowhead PST and 345 kV capacitor banks at the Arrowhead Substation." Id, p. 21, fn. 19; repeated on p. 28. Dagenais claims that "Fourth, the Arrowhead PST is no longer needed. In all three studies that ATC modeled the Arrowhead Substation Alternative, ATC "assumed that

the existing Arrowhead PST would be bypassed and retired, and stated all its studies show that ATC's alternative performs comparably to (if not better than) MP's proposal, even without the Arrowhead PST. " Id. P.33. Assumed?

ATC also refers to the 2023 Biennial Transmission Projects Report, noting MP's plans to uprate the DC line, but fails to reveal that the HVDC Modernization project, just 3 pages before.<sup>12</sup> Although ATC is described as one of the "transmission-Owning Utilities" ATC also fails to reveal that it does not list any planned transmission projects in the Biennial Report – and that ATC's "alternative is not there – just as there is no mention of ATC's "alternative" in its 10 Year Plan. Even though ATC is one of the transmission owning companies required to participate in the Biennial Transmission Projects Report, ATC has not reported a single project, so logically there is no mention of the ATC "alternative" in the 2023 Biennial Transmission Projects Report! This lends to the belief that this "alternative" is a last minute bar napkin project, unplanned for and filed late with little information, with some details added since September 15, 2023.

Dagenais also claims that the PST is obsolete, repeated by other witnesses, and as with his statements regarding removal of the 800 MVA limitation, Dagenais Rebuttal at 48. Dagenais cites electrical studies, but again, he does not provide any legal basis for his claims, nor does he claim any exemption from the requirement of application to the Public Utilities Commission for removal of that equipment found in the EQB's order, and no such application has been made – there's an informal request in Dagenais rebuttal, but no petition of substance.<sup>13</sup>

As above, Dagenais's statements regarding the rationale for the EQB's limitation to 800

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<sup>12</sup> See HVDC Modernization Project, MPUC Docket No. E999/M-23-91, *2023 Biennial Transmission Projects Report*, at 60 (Nov. 1, 2023), available at <http://tinyurl.com/54xr24u9>.

<sup>13</sup> ATC-Dagenais-Direct 48.

MVA are false, it's not about noise – it was a condition to limit bulk power transfer, as above. Dagenais' unsupported claims that the PST and/or capacitor banks can be removed further damage his credibility.

Dagenais' advocacy for removal of the PST is a theme of his testimony.<sup>14</sup> This is in large part due to his claim that the 800 MVA limitation in the Environmental Quality Board's Order is obsolete.<sup>15</sup> Dagenais' position relies on "studies" and MISO policy, ATC studies where ATC backward engineered the models for their desired result. ATC's position is based on a claim that "changes to the function and operation of the electric grid since the commissioning of the Arrowhead PST have rendered it obsolete for its original intended purpose." Dagenais Direct, p. 37, l. 16-17 and referencing Schedule 8. In Schedule 8, however, he states, "ATC has not conducted any modeling simulation that analyzes whether the Arrowhead PST can be bypassed or whether a second phase shifting transformer would need to be installed..." Schedule 8, p. 1. In that IR Response, he delves into MISO market and dispatch, unrelated to the rationale of capping bulk power transfer and emissions, found in the EQB Order for the 800 MVA limitation.

Dagenais does state his truth as he goes on to say that his position is an assumption:

Furthermore, when ATC studied the Arrowhead Substation Alternative in the planning analyses I described earlier, it was assumed that the Arrowhead PST would be bypassed and retired.

Id, p. 38, l. 3-5. Dagenais provides no basis for this assumption.

There is a longstanding legal requirement that the Arrowhead substation be limited to 800 MVA output to the Arrowhead-Weston line. ATC has provided no legal justification to ignore or for it to act contrary to that Order.<sup>16</sup> Ignoring that legal requirement will not make it go away.

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<sup>14</sup> See e.g., Dagenais Direct, p. 9, 19, 21,22,28, 33, 36, 37, 38.

<sup>15</sup> See Dagenais Direct, p. 37; Rebuttal, p. 48.

<sup>16</sup> ATC notes that "[w]hile I am not an attorney, I also understand that this limit could be subject to legal challenges as an unlawful restriction on interstate commerce, which ATC's attorneys may address during briefing in this case."

a. **DAGENAIS PROVIDES INCOMPLETE OR INAPPLICABLE INFORMATION TO SUPPORT ITS “ALTERNATIVE.”**

An example of ATC’s misguided testimony, ostensibly to support ATC’s “alternative,” is

Dagenais’s tortured discussion of line losses. Direct, p. 11-13. Dagenais appropriately notes:

Given the short distance of both transmission lines (approximately one mile or less in length), these transmission line losses are very small fractions of the overall amount of power received at the Minnesota terminal of the HVDC Line.

Dagenais Direct, p. 12. The line losses calculate, and the 1 MW difference ATC claims in line losses between the two projects, when expressed as a percentage, is nearly nothing, de minimis, infinitesimal, when compared with the TOTAL of the MW at issue in balancing areas in the far left “Area” column. ATC did not disclose MW of individual balancing areas’ nor did it total the “Total” at the lower left corner. Also note in fn. 2 that only MISO Tranche 1 projects 3, 4 and 5 are included, and 1 and 2 are missing. 2 is a MP project now under review. WOLF Ex. 3:



Doing the math, the number for losses is so small that it’s no basis for a Commission decision.

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Likely lifting or ignoring that limit could also be subject to legal challenges!

**Table 1: Comparison of Maximum Expected System Losses**

Area <sup>1</sup>	System Losses in MW (System Intact) <sup>2</sup>			
	MP's Alternative		ATC's Alternative	
	Pre-LRTP	Post-LRTP	Pre-LRTP	Post-LRTP
WEC (295)	102.2	103.3	102.3	103.4
XEL (600)	211.7	206.1	210.2	204.5
MP (608)	182	182.1	180.7	180.6
GRE (615)	108.4	108	108.1	107.8
ALTW (627)	94	92.9	94	92.8
DPC (680)	35.9	32.7	35.9	32.7
ALTE (694)	72	70.8	71.8	70.7
WPS (696)	68.2	68.1	70.8	70.5
<b>Total</b>	<b>874.4</b>	<b>864</b>	<b>873.8</b>	<b>863</b>

**NOTES:**

1. The "areas" described in this column refer to local balancing authorities (LBAs), or certain geographic areas within the MISO footprint. These areas are generally located in the states of Minnesota and Wisconsin. A map depicting the general location of these LBAs is included in Attachment VV to the MISO Tariff. See MISO, *Tariff: Attachment VV*, available at <http://tinyurl.com/2s4hcars>.
2. Losses in each area were calculated for each alternative, both before and after the addition of Projects 4, 5, and 6 of Tranche 1 of MISO's Long Range Transmission Plan.

Dagenais relies heavily on MISO studies<sup>17</sup>, control of the transmission system, and MISO and ATC transmission plans in its advocacy for its "alternative." WOLF filed Exhibit 3<sup>18</sup>, a map of MISO Tranche 1 transmission projects. This can also be found on ATC's webpage with start and endpoints described for each of the projects.<sup>19</sup> In his Direct, p. 12, l. 9-11, Dagenais claims, regarding his "Table 1: Comparison of Maximum Expected System Losses" and:

...summarizes these calculations and provides the real power losses for all areas on the transmission system that surround MP's proposed new St. Louis County Substation, ATC's 345/230 kV Arrowhead Substation.

... and that:

Losses in each area were calculated for each alternative, both before and after the addition of Projects 4, 5, and 6 of Tranche 1 of MISO's Long Range Transmission Plan.

Dagenais Direct, p. 13, Table 1, note 2. However, Dagenais neglects to include MISO Tranche I projects 1 and 2 in Minnesota, and in particular Minnesota Power's Tranche 1 project #2. Inclusion of these additional projects "that surround MP's proposed new St. Louis County

<sup>17</sup> For example, Dagenais refers to the MISO DPP August 2017 Wisconsin Area Phase 1 study, but it is not included with his testimony. Dagenais p. 31, fn 26. Wolf has eFiled it as Exhibit 1.

<sup>18</sup> eFiled on March 13, 2024 ([20243-204278-01](#), [20243-204278-02](#)).

<sup>19</sup> Online at <https://www.atc10yearplan.com/selected-planning-initiatives/long-range-transmission-plan/>

Substation and ATC's 345/230 kV Arrowhead Substation" would produce a different loss number than predicted in Table 1.

A more important consideration not shown in Table 1 is the total MW for the balancing areas listed, either individually, or their sum. This number is a large number, as Dagenais admits, and losses for either its "alternative" or MP's project are low, either 130 Kw or 154 Kw respectively, and that "these transmission line losses are very small fractions of the overall amount of power received at the Minnesota terminal of the HVDC Line," with 900 MW "injected at the North Dakota side of the HVDC Line." That 130 Kw – 154 Kw out of 900 MW is roughly the energy needed to power a refrigerator for a month!<sup>20</sup> Such small numbers are not a basis for choosing any project.

W.O.L.F. is requesting that ATC's "alternative" project be denied, that it not be further considered by Commerce or the Commission. Through acceptance of the ATC "alternative" as a legitimate alternative, the EQB's 800 MVA limitation of bulk power transfer of coal generation is now at risk because ATC repeatedly states its plan to "remove and decommission" the phase shifting transformer, and makes no reference whatsoever to the legal considerations of the EQB's March 19, 2001 800 MVA limitation. ATC doesn't try to explain it away, and ignores this step in prevention of increased North Dakota coal generation emissions through ramped up bulk power transfer.

W.O.L.F specifically requests that:

- The ATC "alternative" be eliminated from consideration;
- The EQB's March 19, 2001 Order point 10 remains in effect:

Minnesota Power shall apply to the [Public Utilities Commission} under section [216E.03] for authorization to make any changes in the Arrowhead substation that would allow Minnesota Power to

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<sup>20</sup> Online at <https://www.energysage.com/electricity/house-watts/how-many-watts-does-a-refrigerator-use/>

increase the capability of the substation to transmit power over the transmission line beyond 800 MVA.<sup>21</sup>

- MP conduct noise modeling prior to certification and permitting decisions are made (in line with Commission practice for wind projects).

Thank you for the opportunity to Comment in this matter.



January 27, 2024

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<sup>21</sup> 2005 legislative changes moved transmission siting authority to the Public Utilities Commission and revised statutes ch. 116C to 216E.