

**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.

**OAH 5-2500-39600
MPUC E-015/CN-22-607
MPUC E-015/TL-22-611**

REBUTTAL TESTIMONY OF TOBIN LARSEN

1 **Q. Please state your name, employer, title, and business address.**

2 A. My name is Tobin Larsen. I am employed by ATC Management, Inc., the corporate
3 manager of American Transmission Company LLC (collectively, ATC). My job title is
4 Team Leader – Contracted Engineering Services and my business address is 801 O’Keefe
5 Road, De Pere, Wisconsin 54115.

6 **Q. Are you the same Tobin Larsen who filed direct testimony in this proceeding on**
7 **behalf of ATC in support of its Arrowhead Substation Alternative?**

8 A. Yes.

9 **Q. What is the purpose of your rebuttal testimony?**

10 A. I respond to certain statements in the direct testimony of MP witnesses Christian Winter
11 and Dan Gunderson concerning ATC’s 345/230 kV Arrowhead Substation.

12 **Q. At page 22 of Mr. Winter’s direct testimony, MP discusses modifications that would**
13 **need to occur within MP’s 230/115 kV Arrowhead Substation to accommodate the**
14 **Arrowhead Substation Alternative. Do you have any comment on this discussion?**

1 A. I agree with MP that, if the Commission orders implementation of the Arrowhead
2 Substation Alternative, modifications to MP's 230/115 kV Arrowhead Substation would
3 be needed. As noted at page 7 of my direct testimony, ATC's current assumption is that
4 the existing 345/230 kV transformer in ATC's Arrowhead Substation would connect to an
5 existing open position in MP's 230/115 kV substation yard; once that connection is
6 established, the new transformer would terminate in the position currently occupied by the
7 existing transformer. A conceptual version of this arrangement is depicted on Schedule 3
8 to my direct testimony.¹ I would also note that, if the Commission authorizes MP's
9 proposed configuration of the Project, MP would still need to reconfigure their 230/115 kV
10 Arrowhead Substation to remove and retire equipment associated with the existing HVDC
11 converter station. As such, MP will need to modify its 230/115 kV Arrowhead Substation
12 regardless of which alternative is implemented.

13 **Q. At pages 81–83 of Mr. Winter's direct testimony, MP states that the Arrowhead**
14 **Substation Alternative “creates risk for coordination of operation, maintenance, and**
15 **emergency restoration” of the pathway between MP's HVDC System and the AC**
16 **transmission system. How do you respond?**

17 A. I do not agree that implementation of the Arrowhead Substation Alternative creates a
18 significant operational risk for MP. As ATC witness Tom Dagenais notes in his rebuttal
19 testimony, it is not uncommon for utilities to procure power for customers through
20 transmission facilities that are owned by third parties. The fact that MP would not have full
21 control and ownership over all the transmission assets between its new converter station

¹ As shown on Schedule 6, even with the additional connection between the new 345/230 kV transformer (in the ATC Arrowhead Substation) and the MP 230/115 kV substation yard, there will still be one open position available for additional assets that may be needed in the future.

1 and its Arrowhead 230/115 kV Substation does not mean that ATC's proposal for
2 interconnecting the Project creates greater risks than MP's proposal. ATC and MP have
3 collaborated and coordinated to operate and maintain their respective Arrowhead
4 substations largely without incident since the ATC 345/230 kV Arrowhead Substation was
5 built in 2007. As Mr. Dagenais explains in his direct testimony, ATC's 345/230 kV
6 Arrowhead Substation has historically been highly reliable and ATC anticipates that it will
7 be available to serve the Project over 99 percent of any given year. If the Arrowhead
8 Substation Alternative is implemented, the parties can continue to coordinate closely to
9 maintain the safe and reliable operation of MP's HVDC system.

10 **Q. At page 85 of Mr. Winter's direct testimony, MP argues that ATC's 345/230 kV**
11 **Arrowhead Substation "does not appear to have sufficient expansion capability to**
12 **accommodate all of the potential long-term transmission concepts being entertained**
13 **in the MISO LRTP study." Likewise, at page 19 of Mr. McCourtney's direct**
14 **testimony, MP asserts that there is wetland mitigation to the east of ATC's 345/230**
15 **kV Arrowhead Substation that prevents future development in that area. What is**
16 **your response?**

17 **A.** As I mentioned in my direct testimony, ATC's 345/230 kV Arrowhead Substation can
18 support up to three new 345 kV transmission assets without the need to expand the existing
19 substation footprint. If the Arrowhead Substation Alternative is implemented, there would
20 be one open position remaining in the substation for a potential new 345 kV line that might
21 be needed in the future. Even one additional 345 kV line in this area could be a significant
22 new project. However, to my knowledge, and as discussed in greater detail in ATC witness
23 Tom Dagenais' rebuttal testimony, there are not presently any firm plans to construct any

1 additional 345 kV lines in this area. Therefore, ATC's existing 345/230 kV Arrowhead
2 Substation should be more than sufficient to accommodate the Project and any potential
3 near-term transmission development in the area. To the extent further expansion is needed,
4 ATC would collaborate with MP and other stakeholders to consider existing constraints
5 and identify the most optimal solution.

6 **Q. At page 6 of Mr. Gunderson's direct testimony, MP states that its 230/115 kV**
7 **Arrowhead Substation is "wholly owned by Minnesota Power." Similarly, at page 82**
8 **of Mr. Winter's direct testimony, MP states that "Minnesota Power has maintained**
9 **operational control over ATC's 345 kV/230 kV Substation." Can you comment on**
10 **each party's ownership, operation, and control of these substation facilities?**

11 A. MP's statements are not entirely correct. First, ATC does own certain assets within the MP
12 230/115 kV Arrowhead Substation yard—namely, two 230 kV breakers, four 230 kV
13 disconnects, all the steel stands and foundations for that equipment, and the H-frame and
14 foundation for the 230 kV interconnection between the two substations. Second, ATC does
15 technically have operational control over the 345/230 kV Arrowhead Substation. However,
16 ATC has an agreement with MP that permits them to operate the facility on our behalf; for
17 instance, if work needs to be completed at that substation, ATC's standard protocol is to
18 contact MP, which will then issue work orders and dispatch field personnel that take
19 direction from MP operators. The significant involvement that MP field personnel and
20 operators have in work and operations at ATC's 345/230 kV Arrowhead Substation further
21 supports my earlier comment that implementation of the Arrowhead Substation Alternative
22 does not present a material operational risk to MP generally or the Project specifically.

1 **Q. At page 26 of Mr. Gunderson’s direct testimony, MP claims that ATC has conducted**
2 **very “little planning” in support of the Arrowhead Substation Alternative. How do**
3 **you respond?**

4 **A.** I disagree with MP’s characterization. While ATC typically would conduct engineering
5 and design activities on the front end of a project like this, the substation engineering
6 required to interconnect the Project to ATC’s 345/230 kV Arrowhead Substation is fairly
7 straightforward and not complex. This is partly due to the fact that both the ATC and MP
8 Arrowhead Substations were originally built to support the expansion that is being
9 contemplated here.

10 **Q. Does this conclude your pre-filed rebuttal testimony?**

11 **A.** Yes.