

Staff Briefing Papers

Meeting Date November 7, 2024

Agenda Item 2**

Company All Rate-Regulated Electric Companies

Docket No. E002, E111, E017, E015/CI-24-200

In the Matter of Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net-metering Eligibility for Rate-Regulated Utilities

- Issues
1. How should the Commission consider the “capacity” definition in Minn. Stat. § 216B.164 and associated rules on net-metering eligibility for rate-regulated utilities?
 2. What should the Commission consider regarding the definition of “capacity” as it relates to reliability and net-metering rate eligibility?
 3. Are there other issues or concerns related to this matter?

Staff Austin Northagen Austin.Northagen@state.mn.us 651-201-2223

Derek Duran Derek.duran@state.mn.us 651-201-2206

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

✓ Relevant Documents	Date
Comments, Dakota Electric Association	September 3, 2024
Comments, Department of Commerce, Division of Energy Resources	September 3, 2024
Comments, Minnesota Power	September 3, 2024
Comments, Minnesota Solar Energy Industries Association	September 3, 2024
Comments – Exhibit A, Minnesota Solar Energy Industries Association	September 3, 2024
Comments – Exhibit B, Minnesota Solar Energy Industries Association	September 3, 2024
Comments, Minnesota Rural Electric Association	September 3, 2024
Comments - Declaration 1 of 2, Minnesota Rural Electric Association	September 3, 2024
Comments – Declaration 2 of 2, Minnesota Rural Electric Association	September 3, 2024
Comments, Nokomis Energy	September 3, 2024
Comments, Otter Tail Power Company	September 3, 2024
Comments, Northern States Power Company, d/b/a Xcel Energy	September 3, 2024
Reply Comments, Clean Energy Economy Minnesota	September 17, 2024
Reply Comments, Dakota Electric Association	September 17, 2024
Reply Comments, Department of Commerce, Division of Energy Resources	September 17, 2024
Reply Comments, Minnesota Municipal Utilities Association	September 17, 2024
Reply Comments, Minnesota Solar Energy Industries Association	September 17, 2024
Reply Comments, Exhibit A, Minnesota Solar Energy Industries Association	September 17, 2024
Reply Comments, Exhibit B, Minnesota Solar Energy Industries Association	September 17, 2024
Reply Comments, Exhibit C, Minnesota Solar Energy Industries Association	September 17, 2024
Reply Comments, Minnesota Power	September 17, 2024
Reply Comments, Minnesota Rural Electric Association	September 17, 2024
Reply Comments, Nokomis Energy	September 17, 2024
Reply Comments, Office of Attorney General, Residential Utilities Division	September 17, 2024
Reply Comments, Otter Tail Power Company	September 17, 2024
Reply Comments, Northern States Power Company, d/b/a Xcel Energy	September 17, 2024

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BACKGROUND

On October 2, 2023, the Minnesota Solar Energy Industries Association (“MnSEIA”) filed an objection in Docket Nos. E111/M-18-711 and E999/CI-16-521 regarding a specific statement in Section 11 of Dakota Electric Association’s (“DEA”) Technical Specifications Manual (“TSM”). MnSEIA objected that DEA’s TSM had incorrectly applied Minnesota law by giving compensation for a qualifying facility based on the generation capacity measured by its nameplate rating. MnSEIA claimed that Minnesota law required net-metering compensation for qualifying facilities with a capacity of less than 40 kW based on the export capacity at the point of interconnection.

In its May 22 Order in Docket Nos. E111/M-18-711 and E999/CI-16-521, the Commission required that DEA’s TSM be modified to remove the application of “nameplate rating” from Section 11.1.1 of the manual. The Commission determined this was a reasonable modification to avoid any potential confusion over the use of nameplate rating in the TSM. An additional dispute over the use and definition of “capacity” as set forth in Minn. Stat. § 216B.164, subd. 3(d) was unresolved.

The Commission’s Order provided that:

MnSEIA...had not demonstrated that Dakota Electric’s application of “nameplate rating” has impeded the installation of net-metered or qualifying facilities, the Commission will further explore the issues raised by opening a separate docket into the use and definition of “capacity” as set forth in Minn. Stat. § 216B.164, subd. 3(d).¹

Order point 2 of the Commission’s May 22, 2024 Order opened a proceeding into the application of the definition of “capacity” in Minn. Stat. § 216B.164 and associated rules related to net-metering rate eligibility for rate-regulated utilities without creating reliability problems. Discussion of whether a more precise meaning of “capacity” can be derived may be useful in resolving whether the current application of the term “capacity” is reasonable.

STATEMENT OF THE ISSUE

The primary issue for the Commission to address is to determine *where* capacity is measured for purposes of net-metering rate eligibility. Commenter positions can be broken down between commenters who believe the current industry practice is supported by Minnesota law and those who support MnSEIA’s proposed interpretation of Minnesota law.

Under the current industry practice, utilities measure capacity at the qualifying facility’s inverter to measure its alternating current (AC) output to determine whether the qualifying

¹ *In the Matter of Dakota Electric’s Updates to Specific Distribution Interconnection Process and Interconnect Agreement and In the Matter of Updating the Generic Standards for the Interconnection and Operation of Distributed Generation Facilities Under Minn. Stat. § 216B.1611*, Docket Nos. E111/M-18-711 and E999/CI-16-521 at 4 (May 22, 2024).

facility is eligible for net-metering compensation. MnSEIA’s proposed interpretation of Minnesota law would indicate that capacity should be measured at the utility’s bi-directional meter according to the qualifying facility’s export capacity to determine whether the qualifying facility is eligibility for net-metering compensation.

For additional background, the current industry practice approaches measuring capacity in the same way for both the interconnection study and eligibility for net-metering compensation. MnSEIA’s proposed interpretation argued that the current industry practice is only supported for the interconnection study. Under Minnesota law, supporters of the proposed interpretation argued measuring capacity to determine eligibility for net-metering compensation should be measured differently than the interconnection study. That capacity should be measured at the utility’s bi-directional meter to measure its export capacity to determine whether a qualifying facility is eligible for the net-metering rate. This difference is illustrated in **Table 1**:

Table 1: How Capacity is Measured for the Interconnection Study and for Net-metering Rate Eligibility

Current Industry Practice	
Interconnection Study	Net-metering Rate Eligibility
Inverter and AC Output	Inverter and AC Output
Proposed Interpretation	
Interconnection Study	Net-metering Rate Eligibility
Inverter and AC Output	Bi-directional meter and Export Capacity

At high-level, each position is as follows. Those in favor of the current utility practice (**Decision Option 1**) argue that Minnesota law supports the current practice because:

- Capacity has commonly been understood to be measured by the total production capability at the qualifying facility’s inverter, as reflected in the Minnesota rule definition of “capacity.”
- The Commission’s Order in adopting the Minnesota rule definition of “capacity,” and its SONAR, both reflect that capacity is measured by its total production capability at the qualifying facility’s inverter.
- The current industry practice is consistent with the purpose of net-metering and the Uniform Statewide Contract.
- Therefore, capacity is measured at a qualifying facility’s inverter by its AC output.

Those in favor of MnSEIA’s proposed interpretation (**Decision Option 2**) argue that Minnesota law supports this interpretation because:

- Capacity is measured under statute at “the point of interconnection *between* a distributed generation facility and the utility’s electricity system.”
- Net-metering compensation is given to any qualifying facility under statute that has

“less than 40kW capacity.”

- Therefore, capacity is measured at the utility’s bi-directional meter located between the utility’s system and the qualifying facility and allows any qualifying facility to receive net-metering compensation so long as it does not export more than 40 kW onto the utility’s system.

To supplement the Commission’s determination, commenters provided additional considerations regarding the definition of “capacity” as it relates to reliability and net-metering rate eligibility.

DISCUSSION

I. Minnesota Statute and Rule Background

This issue revolves around specific Minnesota statutes and rules. Staff attempts to provide relevant statutes and rules necessary for the Commission to make an informed decision.

Eligibility for net-metering compensation is based on Minn. Stat. 216B.164, subd. 3(d), which provides:

Notwithstanding any provision in this chapter to the contrary, a qualifying facility having less than 40-kilowatt capacity may elect that the compensation for net input by the qualifying facility into the utility shall be at the average retail utility energy rate. (emphasis added)

To determine the capacity requirement for a qualifying facility, Minn. Stat. § 216B.164, subd. 2a(c) defines “capacity” as

[T]he number of megawatts alternating current at the point of interconnection between a distributed generation facility and a utility’s electricity system. (emphasis added)

To further clarify the statutory definition of “capacity,” Minn. R. 7835.0100, subp. 4 defines “capacity” as

[T]he capability to produce, transmit, or deliver electric energy, and is measured by the number of megawatts alternating current at the point of common coupling between a qualifying facility and a utility’s electric system. (emphasis added)

In addition, numerous commenters argued the “point of interconnection” and the “point of common coupling” are synonymous and offered the Minnesota Rule definition of “point of common coupling” in Minn. R. 7835.0100, subp. 17(a),

[T]he point where the qualifying facility’s generation system, including the point of generator output, is connected to the utility’s electric power grid.

II. Commenter Positions

The discussion in the record grew out of the prior Commission Order in Docket Nos. E111/M-18-711 and E999/CI-16-521 and an *ad hoc* workgroup that was composed prior to the initial comment deadline. Most commenters framed the discussion around, and responded to, MnSEIA's proposed interpretation. Commenters opposed to the proposed interpretation explained their opposition by detailing how the current industry practice is supported under Minnesota law and how the proposed interpretation is flawed.

The current industry practice has understood "capacity," as it interacts with eligibility for the net-metering rate, to be based on the AC output of the qualifying facility. Understanding capacity to be based on the qualifying facility's AC output would mean that capacity is measured at the qualifying facility's inverter. (**Decision Option 1**) In contrast, commenters in favor of the proposed interpretation understood the definition of "capacity," as it interacts with eligibility for the net-metering rate, to be based on the export capacity of a qualifying facility. Understanding capacity to be based on the qualifying facility's export capacity would mean that capacity is measured at the utility's bi-directional meter. (**Decision Option 2**)

The difference of these positions depends on where "capacity" is measured to determine whether a qualifying facility is "less than 40 kW capacity."² The practical implication of the current industry practice is to limit net-metering rate eligibility to a qualifying facility that can generate no more than 40 kW and any excess generation exported onto the utility's system would receive net-metering compensation.³ (**Decision Option 1**) On the contrary, the proposed interpretation would allow any qualifying facility, regardless of its maximum production capability, to be eligible for net-metering compensation so long as it does not export more than 40 kW onto the utility's system.⁴ (**Decision Option 2**)

To illustrate these positions, Staff has amended **Figure 3 and 4**, found in the Staff Analysis, to visualize the physical location of measuring capacity at the inverter or the utility's bi-directional meter as advocated by commenters.

The group of commenters who are on each side of this issue can be categorized to whether the commenter interprets "capacity" in Minn. Stat. § 216B.164 to be measured by its AC output at the qualifying facility's inverter or by its export capacity at the bi-directional meter. The Office of Attorney General, Residential Utility Division ("OAG") also commented in this record and informed the Commission to not redefine the statutory definition of "capacity," but otherwise

² Minn. Stat. § 216B.164 subd. 3(d).

³ *In the Matter of the Impacts of the "Capacity" Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Dakota Electric Association Initial Comments at 6 (September 3, 2024) (hereinafter "DEA Initial Comments").

⁴ *In the Matter of the Impacts of the "Capacity" Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Solar Energy Industries Association Reply Comments at 5 (September 17, 2024) (hereinafter "MnSEIA Reply Comments").

did not advocate for a particular outcome.⁵ The remainder of commenters took a position in this issue as indicated in **Table 2**.

Table 2: Commenter Positions

Proposed Interpretation	Current Industry Practice
<ol style="list-style-type: none"> 1. Clean Energy Economy Minnesota 2. Department of Commerce 3. MnSEIA 4. Nokomis Energy 	<ol style="list-style-type: none"> 1. Dakota Electric Association 2. Minnesota Municipal Utilities Association 3. Minnesota Power 4. Minnesota Rural Electric Association 5. Otter Tail Power Company 6. Xcel Energy

Not all organizations who participated in the *ad hoc* workgroup also commented in this record, but the organizations who participated in the workgroup include:⁶

- All Energy Solar
- Blue Horizon Solar
- Connexus Energy
- Cooperative Energy Futures
- Dakota Electric Cooperative
- MiEnergy
- Minnesota Interfaith Power and Light
- Minnesota Power (“MP”)
- Minnesota Rural Electric Association (“MREA”)
- Minnesota Solar Energy Industries Association
- Nokomis Energy (“Nokomis”)
- Solar United Neighbors
- STAR Energy Services
- Vessyll
- Xcel Energy (“Xcel”)

III. Discussion

Commenters in the record primarily responded to the proposed interpretation offered by MnSEIA. To best reflect that discussion in the record, the Discussion section is structured to offer the current industry practice and then explain the proposed interpretation. The Discussion

⁵ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Office of Attorney General, Residential Utility Division Reply Comments at 2 (September 17, 2024) (hereinafter “OAG Reply Comments”).

⁶ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Solar Energy Industries Association Exhibit A at 4 (September 3, 2024).

section ends with a summary of the reliability impacts offered by commenters dependent upon each interpretation.

All commenters agreed that how capacity is determined for interconnection studies and rate eligibility come from different sources. For interconnection studies, capacity is determined according to the Minnesota Distribution Energy Resources Interconnection Process (“MN DIP”), Minnesota Technical Interconnection and Interoperability Requirements (“TIIR”), and the TSM. For rate eligibility purposes, it is Minnesota law.⁷ However, commenters differ over the interpretation of Minnesota law and how it guides capacity should be measured for purposes of net-metering compensation eligibility.

A. Current Industry Practice

Commenters in favor of the current industry practice have referred to AC output as net power production capacity, inverter nameplate capacity, nameplate rating, or nameplate capacity. For purposes of these Briefing Papers, Staff will refer to these terms as “AC output.”

Staff understands the position of these commenters to be - it is the AC output measured at the inverter that determines whether a qualifying facility is eligible for net-metering compensation.

1. Statutory Context

DEA,⁸ Minnesota Municipal Utilities Association (“MMUA”),⁹ MP,¹⁰ MREA,¹¹ Otter Tail Power (“OTP”),¹² and Xcel¹³ have all understood the net-metering rate to be limited to qualifying facilities based on its generating AC output measured at the qualifying facility’s inverter.

(Decision Option 1) Any excess generation, produced from a DER system no greater than 40 kW in size, and not used by customer load, commonly referred to as the net input by commenters in favor of AC output, can be sold to the utility for compensation.

⁷ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Solar Energy Industries Association Initial Comments at 9 (September 3, 2024) (hereinafter “MnSEIA Initial Comments”).

⁸ DEA Initial Comments at 8.

⁹ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Municipal Utilities Association Reply Comments at 1. (September 17, 2024)

¹⁰ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Power Initial Comments at 2. (September 3, 2024) (hereinafter “MP Initial Comments”)

¹¹ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Rural Electric Association Initial Comments at 2 (September 3, 2024) (hereinafter “MREA Initial Comments”).

¹² *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Otter Tail Power Initial Comments at 4. (September 3, 2024) (hereinafter “OTP Initial Comments”)

¹³ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Xcel Energy Initial Comments at 6. (September 3, 2024) (hereinafter “Xcel Initial Comments”)

Commenters in favor of AC output all argued that the Commission should examine the definition of “capacity” as applied to the net-metering eligibility provision in Minn. Stat. § 216B.164, subd. 3(d) in the context of the overall statute.¹⁴

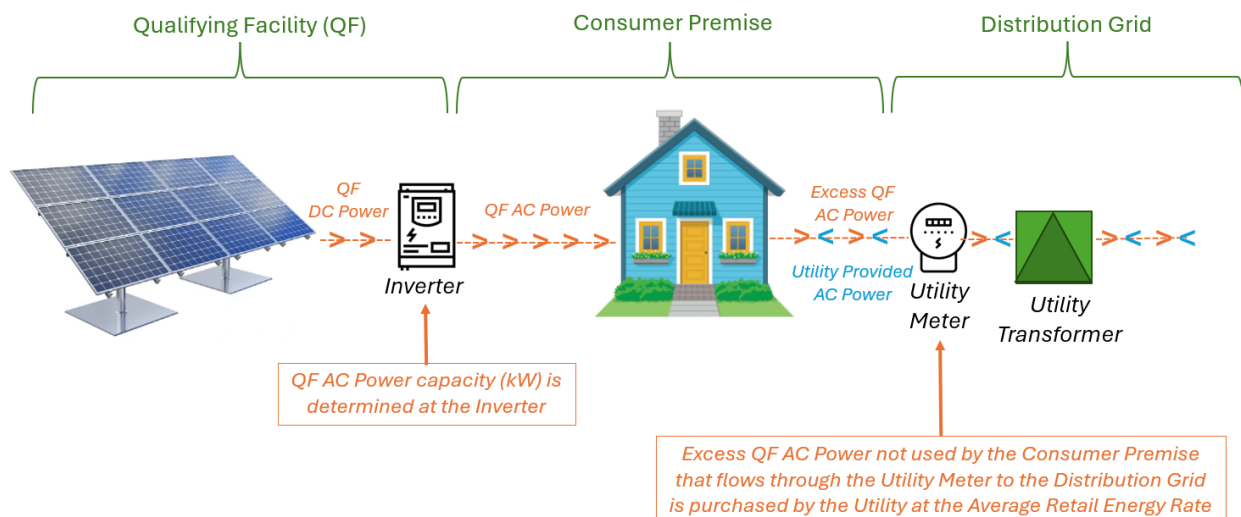
To determine the capacity of a qualifying facility, commenters in favor of AC output argued that a plain reading of the statutory definition of “capacity,” for purposes of net-metering compensation, is the qualifying facility’s AC output measured at its inverter.¹⁵ Minn. Stat. § 216B.164, subd. 2a(c) defines “capacity” as

[T]he number of megawatts alternating current at the point of interconnection between a distributed generation facility and a utility’s electricity system.

DEA and OTP both highlighted that the “point of interconnection” is not defined in statute, but that term is commonly understood in industry practice to be the output of the generating device(s), exclusive of any offset from the load.¹⁶ DEA¹⁷ and OTP¹⁸ argued the commonly understood interpretation of “point of interconnection” is consistent with the statutory definition of “capacity” because it refers to the qualifying facility’s output.

To further illustrate that capacity is measured at a qualifying facility’s inverters, which converts the DER system’s DC capacity into AC capacity that can be used by the consumer with excess sent to utility’s system, MREA provided **Figure 1** to depict the product capability or output of a facility:¹⁹

Figure 1: Location of Point of Interconnection



¹⁴ DEA Initial Comments at 5.

¹⁵ DEA Initial Comments at 6.

¹⁶ DEA Initial Comments at 6.

¹⁷ DEA Initial Comments at 6.

¹⁸ OTP Initial Comments at 6.

¹⁹ MREA Initial Comments at 4.

By illustration of **Figure 1**, MREA notes that only the excess generation, or the net input, is eligible for net-metering compensation if produced by a facility with a capacity lower than 40 kW.²⁰ MREA,²¹ MMUA,²² and Xcel²³ argued that this understanding has long been understood in industry practice.²⁴

To resolve any uncertainty about how “point of interconnection” is defined, DEA points to the Minnesota rule definition of “point of common coupling” as:

The point where a qualifying facility’s generation system, including the point of generator output, is connected to the utility’s electric power grid.²⁵

In adopting this rule definition, DEA reasoned that the Commission stated its intent in its 2015 Order to “clarify that the point of generator output is relevant in measuring capacity.”²⁶ DEA also reasoned that the Commission adopted the rule definition of “point of common coupling” because it understood it to be *synonymous* with the “point of interconnection.”²⁷

Further, DEA argued that the definition of the “point of common coupling” used to update Minnesota Rules is not the same concept that is used today and argued by MnSEIA.²⁸ DEA explained that when the Commission promulgated the “point of common coupling” it likely understood it be referred to as the “point of DER connection” under MN DIP.²⁹ DEA explained this history is important because the “point of common coupling” as defined in Minnesota rule *does not include any customer load* and measures only the output of the qualifying facility. Whereas, the point of common coupling as defined in the current MN DIP *does include customer load*. The consideration of load is important because if load is not considered under the Minnesota rule definition of “point of common coupling,” then, these commenters explain, the industry’s current practice may be consistent with Minnesota law because it only measures only the AC output of the qualifying facility.

Second, commenters in favor of AC output explained that the Minnesota rule definition of “capacity” further supports the position the current industry practice. The rule definition reads:

“[T]he *capability* to produce, transmit, or deliver electric energy, and is measured by the

²⁰ MREA Initial Comments at 4.

²¹ MREA Initial Comments at 4.

²² *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Municipal Utilities Association Reply Comments at 2. (September 17, 2024)

²³ Xcel Initial Comments at 6.

²⁴ MREA Initial Comments at 4.

²⁵ Minn. R. Ch. 7835.0100, subp. 17(a).

²⁶ DEA Initial Comments at 8, citing Docket No. E-999/R-13-729, Order Adopting Rules at 4 (July 17, 2015).

²⁷ DEA Initial Comments at 8-9.

²⁸ DEA Initial Comments at 9.

²⁹ DEA Initial Comments at 9.

number of megawatts AC current at the point of common coupling between a qualifying facility and a utility's electric system."³⁰

Minnesota Power³¹ and Xcel³² reasoned that the word "capability" supports the position that capacity is measured by its AC output at the inverter because it means the maximum output a generating facility is capable of producing. Commenters in favor of the current industry practice also pointed to the Commission's the Statement of Need and Reasonableness ("SONAR") in adopting this rule definition, found in **Appendix 1**, which stated:

It is necessary to update the rules to incorporate the recent statutory changes, which define capacity as the "number of megawatts alternating current at the point of interconnection between a distributed generation facility and the utility's electric system." Under this definition, capacity is, in effect, the amount of **electricity actually produced**. It is therefore reasonable to incorporate this language into the rules by stating that capacity is the capability to produce, transmit, or deliver electricity and is **measured by the amount produced**.³³

Third, commenters in support of the current industry practice argued that this interpretation fits within the context of the net-metering statutory provision in subd. 3(d) that allows a qualifying facility "having less than 40-kilowatt capacity" to elect that the compensation for net input by the qualifying facility into the utility system shall be "at the average retail utility energy rate."³⁴ By this statutory language, MREA argued that a qualifying facility must have less than 40 kW capacity to be eligible for net-metering compensation.

MREA highlighted that Minn. Stat. 216B.164, subd. 3, in full, reads as follows:

Subd. 3. Purchases; small facilities. (a) This paragraph applies to cooperative electric associations and municipal utilities. For a qualifying facility having less than 40-kilowatt capacity, the customer shall be billed for net energy supplied by the utility according to the applicable rate schedule for sales to that class of customer...in the case of net input into the utility system **by a qualifying facility having less than 40-kilowatt capacity**, compensation to the customer shall be at the per kilowatt-hour rate determined under paragraph (c) or (d).

(d) Notwithstanding any provision in this chapter to the contrary, a qualifying **facility having less than 40-kilowatt capacity** may elect that the **compensation for net input** by the qualifying facility into the utility system shall be **at the average retail utility energy**

³⁰ Minn. R. 7835.0100, subp. 4.

³¹ MP Initial Comments at 1-2.

³² *In the Matter of the Impacts of the "Capacity" Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Xcel Energy Reply Comments at 2 (September 17, 2024) (hereinafter "Xcel Reply Comments").

³³ MREA Initial Comments at 7, citing Commission Statement of Need and Reasonableness at 3-4, Docket No. E-999-R-13-729 (December 29, 2014).

³⁴ MREA Initial Comments at 3.

*rate.*³⁵

MREA argued that this governing statute limits eligibility for net-metering compensation to a qualifying facility that **has** a capacity below 40 kW. The word **has** means “to possess, own, or hold.”³⁶ Therefore, the capacity of a solar distributed generation facility is its alternating current production capacity and the statute applies net-metered compensation to a facility’s “net input into the system” but only to the extent the net input comes from a facility that has a production capacity below the 40 kW threshold.³⁷

Lastly, DEA³⁸ and MREA³⁹ argued that using AC output measured at the inverter is consistent with the purpose of net-metering. A net-metered facility is defined as:

[A]n electric generation facility constructed **for the purpose of offsetting energy use** through the use of renewable energy or high efficiency distributed generation resources.⁴⁰

These parties argue that the definition of a net-metering facility makes it clear the intention of net-metered facilities to match the customer’s load, not to sell up to 40 kW excess generation to the utility’s system.⁴¹

Overall, these commenters argued that AC output measured at the inverter is the only metric that makes sense because capacity is production and AC output defines what a DER system can produce.⁴² AC output measured at the inverter is consistent with the Commission’s MN DIP Order, all of Minnesota’s utilities use nameplate rating as the metric for determining the capacity of DER systems, and AC output is the well-established metric for determine a DER system’s capacity in Minnesota and across the Country.⁴³

2. Prior Commission Orders

MREA⁴⁴ and OTP⁴⁵ also argued that the Commission has indicated in its August 13, 2018 Order, updating MN DIP guidelines, that nameplate capacity was the appropriate metric to use when determining the capacity of DER system. That Order provided:

The MN DIP defines capacity consistent with the federal small Generator

³⁵ MREA Initial Comments at 3.

³⁶ MREA Initial Comments at 3.

³⁷ DEA Initial Comments at 3.

³⁸ DEA Initial Comments at 11.

³⁹ MREA Initial Comments at 5.

⁴⁰ Minn. Stat. § 216B.164, subd. 2a (j).

⁴¹ MREA Initial Comments at 5.

⁴² MREA Initial Comments at 8.

⁴³ MREA Initial Comments at 8.

⁴⁴ MREA Initial Comments at 8.

⁴⁵ OTP Initial Comments at 5.

Interconnection Procedures. Generally, a DER's capacity is equivalent to its "nameplate rating." However, the **nameplate capacity may, with the utility's agreement, be limited "through use of a control system, power relay(s), or other similar device settings or adjustments."** In such situations, a DER's capacity is the maximum AC capacity that the DER is "capable of injecting into the AREA EPS Operator's [utility's] electric system over a sustained time which may be limited."⁴⁶

MREA⁴⁷ and OTP⁴⁸ interpreted this paragraph in the Order to mean the Commission has tied the determination of a DER system's capacity to the facility's nameplate rating. MREA agrees that the Commission's Order left room to consider a qualifying facility's export capacity based on the use of control systems, but only "with the utility's agreement."⁴⁹

3. Uniform Statewide Contract

DEA⁵⁰ and Xcel⁵¹ also pointed to the Commission-approved Uniform Statewide Contract, in Minn. R. 7835.9910, as supportive of its interpretation of "capacity." Minn. R. 7835.9910 provided that:

The qualifying facility has installed electric generating facilities consisting of [description of facilities], rated at less than 40 kilowatts of electricity, on property located at [location].

DEA believed this Minnesota Rule makes clear that capacity is measured based on the nameplate rating for purposes of net-metering rate eligibility.⁵² Further, DEA did not believe MnSEIA's capacity interpretation comports with the Uniform Statewide Contract because export capacity measured at the utility's bi-directional meter does not represent the maximum physical generating rating of a DER.⁵³

4. Consistent with FERC and PURPA

Xcel drew from FERC's understanding of "capacity" and relates how the Commission can learn from prior FERC proceedings to resolve this issue. Xcel reasoned that because Minnesota statute gives specific deference to PURPA and FERC, and that this statute refers to the capacity of the qualifying facility for purposes of applying net-metering and other related purposes, the

⁴⁶ MREA Initial Comments at 6-7 citing Order Establishing Updated Interconnection Process and Standard Interconnection Agreement, Docket Nos. E-999/CI-01-1023 and E-999/CI-16-521 (August 13, 2018), p. 7. (Emphasis added).

⁴⁷ MREA Initial Comments at 8.

⁴⁸ OTP Initial Comments at 5.

⁴⁹ MREA Initial Comments at 7.

⁵⁰ DEA Initial Comments at 10.

⁵¹ Xcel Reply Comments at 4.

⁵² DEA Initial Comments at 11.

⁵³ DEA Initial Comments at 11.

FERC approach to determining the capacity of a qualifying should apply in this case as well.⁵⁴

From a prior FERC decision, Xcel highlighted that in determining the capacity of a qualifying facility, FERC measured the capacity of a qualifying facility by using the “net power production capacity.”⁵⁵ Xcel provides that FERC considers the “power production capacity” of a qualifying facility to be the maximum net output of the facility that can be safely, and reliability achieved under the most favorable anticipated design conditions.⁵⁶ Xcel further draws attention to the capacity calculation table provided from FERC, which states:

Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process. If this facility includes nonpower production processes, do not include any power consumed by the non-power production activities in your reported parasitic station power.⁵⁷

Xcel emphasized the last line of this excerpt to show the nonpower product processes are not to be netted out of the calculation of the net electric capacity calculation for the facility.⁵⁸ Further, FERC has specified that “the net output of the facility is its send out after subtraction of the power used to operate auxiliary equipment in the facility necessary for power generation (such as pumps, blowers, fuel preparation machinery, and exciters) and for other essential uses in the facility from the gross generator output.”⁵⁹

Xcel provided these excerpts from FERC to illustrate that when FERC considers the capacity of a DER system, it does so by considering the net input. It acknowledges the energy consumption from the customer where the DER system is located in its calculation for capacity, which is another way of describing the nameplate rating.⁶⁰

B. Proposed Interpretation

Commenters in favor of the proposed interpretation argued that the “capacity” of a qualifying facility, as defined in Minnesota law regarding net-metering compensation eligibility, should be measured at the utility’s bi-directional meter for its export capacity. (**Decision Option 2**)

In short, this proposed interpretation would allow for a DER owner to generate electricity for their own use and would be entitled to receive net-metering compensation for all energy exported to the utility’s system so long as that energy does not exceed 40 kW.⁶¹

⁵⁴ Xcel Initial Comments at 6.

⁵⁵ Xcel Initial Comments at 4-5.

⁵⁶ Xcel Initial Comments at 4, citing FERC Form 556 at p. 10, attached as Attachment A.

⁵⁷ Xcel Initial Comments at 4, citing FERC Form 556 at p. 10, attached as Attachment A.

⁵⁸ Xcel Initial Comments at 4.

⁵⁹ Xcel Initial Comments at 4.

⁶⁰ Xcel Initial Comments at 4-5.

⁶¹ MnSEIA Reply Comments at 5.

1. Statutory Context

To determine whether a qualifying facility is eligible for net-metering compensation, commenters in favor of export capacity argue that the law is clear - capacity is measured at the point of interconnection/common coupling between the qualifying facility and the utility's system, which is where the bi-directional meter is connected, that measures its export capacity.⁶²

To be eligible for net-metering compensation, a qualifying facility “must be less than 40 kW capacity.”⁶³ To measure the “capacity” of a qualifying facility, commenters in favor of export capacity argued the statutory definition of “capacity” should govern this issue:

[T]he number of megawatts AC at the point of interconnection between a distribution generation facility and a utility's electric system.⁶⁴

To provide clarity on the statutory definition, commenters in favor of the proposed interpretation turned to Minnesota rules which defined “capacity” as:

[T]he capability to produce, transmit, or deliver electric energy, and is measured by the number of megawatts alternating current at the point of common coupling between a qualifying facility and a utility's electric system.⁶⁵

These commenters noted that Minnesota statute did not define “point of interconnection” or the “point of common coupling,” but Clean Energy Economy Minnesota (“CEEM”)⁶⁶ and the Department of Commerce (“Department”)⁶⁷ argued that these two terms are interchangeable with each other as Minnesota rules defines “point of common coupling” as:

[T]he point where the qualifying facility's generation system, including the point of generator output, is connected to the utility's electric power grid.⁶⁸

⁶² MnSEIA Initial Comments at 12.

⁶³ Minn. Stat. § 216B.164 subd. 3(d).

⁶⁴ Minn. Stat. 216B.164, subd. 2a(c). (emphasis added)

⁶⁵ Minn. R. 7835.0100, subp. 4. (emphasis added)

⁶⁶ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Clean Energy Economy Reply Comments at 4 (September 17, 2024) (hereinafter “CEEM Reply Comments”).

⁶⁷ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Department of Commerce – Division of Energy Resources Reply Comments at 3 (September 17, 2024) (hereinafter “DOC Reply Comments”).

⁶⁸ Minn. R. 7835.0100, subp. 17(a).

The Department,⁶⁹ MnSEIA,⁷⁰ Nokomis Energy (“Nokomis”),⁷¹ and CEEM,⁷² all provided that these definitions make it clear that capacity is measured at the point of interconnection, also called the point of common coupling, between the qualifying facility and the utility system, which is the utility's bi-directional meter measuring the export capacity.

MnSEIA laid out this argument in further detail, by reading these statutory and rule provisions together as such:

A Qualifying Facility having less than 40 kW capacity, which is measured by the number of megawatts alternating current at the point of common coupling between a qualifying facility and a utility’s electric system, may elect that the compensation for net input by the qualifying facility into the utility shall be at the average retail utility energy rate.⁷³

Accordingly, MnSEIA argued that the law allows for a DER owner to generate his or her own electricity and is entitled to receive net-metering compensation for all energy exported to the utility’s system so long as that energy does not exceed 40 kW.⁷⁴

Nokomis framed this issue of eligibility for net-metering compensation based on where the instantaneous limit of exported generation is measured. To resolve this issue, Nokomis argued that the statutory definition of “capacity” provides it is measured at the point of interconnection between a qualifying facility and a utility’s electric system.⁷⁵ This argument is consistent with MnSEIA’s interpretation of Minnesota law.

Lastly, CEEM provided that based on its reading of the law, the operative legal and technical element is “the point of interconnection” or “the point of common coupling” between the qualifying facility and a utility’s electrical system. Therefore, so long as the number of kilowatts at the point of interconnection, or common coupling, comports with the 40kW statutory requirement, then the totality of the size of a photovoltaic system can be greater than any limit at the point of interconnection or common coupling.⁷⁶

⁶⁹ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Department of Commerce – Division of Energy Resources at 5 (September 3, 2024) (hereinafter “DOC Initial Comments”).

⁷⁰ Minn. R. 7835.0100, subp. 4. (emphasis added)

⁷¹ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Nokomis Energy Initial Comments at 1-2 (September 3, 2024) (hereinafter “Nokomis Initial Comments”).

⁷² CEEM Reply Comments at 2-3.

⁷³ MnSEIA Initial Comments at 12.

⁷⁴ MnSEIA Reply Comments at 19.

⁷⁵ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Nokomis Energy Reply Comments at 1-2 (September 17, 2024) (hereinafter “Nokomis Reply Comments”).

⁷⁶ CEEM Reply Comments at 4.

2. MN DIP Support

In further support of this proposed interpretation, commenters in favor of the proposed interpretation pointed to MN DIP to explain that it contemplates a qualifying facility that is able to generate more than 40 kW, but only exports 40 kW onto the utility's system. The Department argued that MN DIP contemplates interconnection standards for multiple DER systems at a single point of interconnection in the MN DIP glossary, as it defines a DER as:

A source of electric power that is not directly connected to a bulk power system. DER includes both generators and energy storage technologies capable of exporting active power to an electrical power system. An interconnection system or a supplemental DER device that is necessary for compliance with this standard is part of a DER. For the purpose of the MN DIP and MN DIA, the DER includes the Customer's interconnection Facilities but shall not include the Area EPS Operator's Interconnection Facilities.⁷⁷

MnSEIA⁷⁸ and the Department⁷⁹ further argued that, while nameplate rating may be used to measure capacity for interconnection studies, it is not the final and only way that a DER system can be evaluated under the MN DIP. Section 5.14.2 of the MN DIP states that a DER "shall be evaluated on the basis of the Aggregate Nameplate Rating of the multiple DERs unless 5.14.3 applies. This section explicitly recognizes that while the starting point for evaluating the impact of interconnecting a DER is its nameplate capacity, that evaluation changes if the actual export capacity of the DER is less than the nameplate capacity."⁸⁰

The Department argued this MN DIP provision illustrates that inverter settings can be adjusted to set the maximum operating threshold at a fixed value below that of nameplate rating.⁸¹ Doing so, the Department believed, is consistent with the Minnesota rule definition of "capacity" which limits the capacity of the DER system "to produce, transmit, or deliver electric energy" below that 40 kW threshold.⁸² The Department further noted this practice is consistent with the TIIR Requirements in section 11.⁸³

As a result of MN DIP and the TIIR supporting the use of limiting the export capacity, the Department argued that "if the proposed operation of a DER system using a power control system satisfies utility concerns and the operator and utility complete an interconnection agreement, then the limited export capacity, below that of a nameplate capacity, should determine net-metered rate eligibility."⁸⁴

⁷⁷ DOC Initial Comments at 7, citing MN DIP Glossary of Terms at 1.

⁷⁸ MnSEIA Reply Comments at 11.

⁷⁹ DOC Reply Comments at 6.

⁸⁰ DOC Reply Comments at 6.

⁸¹ DOC Reply Comments at 6.

⁸² DOC Reply Comments at 6.

⁸³ DOC Reply Comments at 6.

⁸⁴ DOC Reply Comments at 6.

Lastly, the Department⁸⁵ argued that the point of interconnection and the point of common coupling are only distinct within MN DIP.⁸⁶ For purposes of eligibility for net-metering compensation in statute, the Department and CEEM find these two terms to be *interchangeable*.⁸⁷

Commenters in favor of the proposed interpretation argued this distinction is important because the use of the terms on where to measure capacity will guide whether customer load is considered or not when measuring capacity. Within MN DIP, the point of interconnection is *exclusive* of customer load while the point of common coupling is *inclusive* of customer load.⁸⁸ Thus, if the point of common coupling is where the capacity of a system is measured, as directed by statute, the Department argued that the maximum capability to export onto the utility's system remains fixed at 40 kW according to statute.⁸⁹

To illustrate the proposed interpretation, MnSEIA offered **Figure 2** to show that MN DIP does contemplate a scenario where one, or multiple, DERs with a nameplate rating over 40 kW exist behind one point of interconnection and that the point of interconnection (POC) and the point of common coupling (PCC) are different within MN DIP.⁹⁰

⁸⁵ DOC Reply Comments at 3

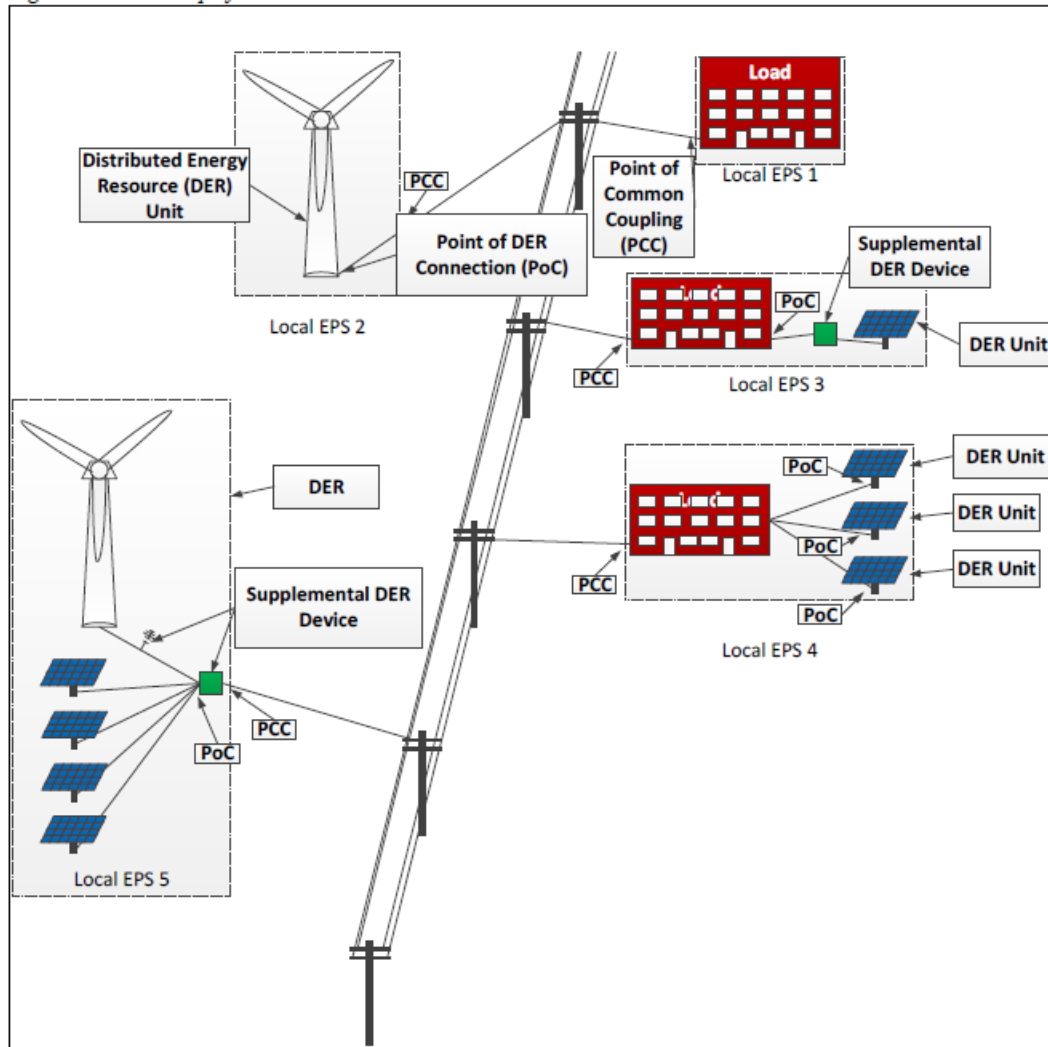
⁸⁶ DOC Reply Comments at 3

⁸⁷ DOC Reply Comments at 3

⁸⁸ DOC Reply Comments at 3-4.

⁸⁹ DOC Reply Comments at 6.

⁹⁰ DOC Reply Comments at 4, citing MN DIP Figure 1, Glossary of Terms at 4.

Figure 2: Location of Point of Interconnection*Figure 2. Relationship of Terms*

Staff believes **Figure 2** is intended to communicate that the point of common coupling and the point of DER connection are different locations in both MN DIP and in Minnesota law. That the point of common coupling (the PCC in Figure 2) is where the qualifying facility is interconnected with the utility's electric system and that the customer's load is behind the point of common coupling.⁹¹ Further, Staff understands that **Figure 2** is consistent with the proposed interpretation with the application of a power control system which can limit the export capacity of multiple DERS at the point of common coupling to less than 40 kW and, therefore, making the DERs eligible for net-metering compensation.

⁹¹ MnSEIA Reply Comments at 15.

C. Counterarguments

1. Counterarguments to the Proposed Interpretation

a. Inconsistent with the “capacity” as defined in Minnesota rules

In response to the proposed interpretation DEA,⁹² Xcel,⁹³ OTP,⁹⁴ MREA,⁹⁵ and MP⁹⁶ argued that such an interpretation would be inconsistent with the definition of “capacity” in Minnesota rules. The definition reads:

[T]he capability to produce, transmit, or deliver electric energy, and is measured by the number of megawatts alternating current at the point of common coupling between a qualifying facility and a utility’s electric system.⁹⁷

First, commenters in opposition to the proposed interpretation believe the “*capability to produce*” within that definition would hold no meaning if the Commission adopts the proposed interpretation.⁹⁸ Second, in adopting the Minnesota rule definition of “capacity” DEA highlighted that the Commission’s Order stated the Commission’s intent to “clarify that the *point of generator output* is relevant in measuring capacity.”⁹⁹ The clarification, DEA argued, is inconsistent and does not fit within the proposed interpretation.¹⁰⁰

These commenters also argued that the proposed interpretation ignores the Commission’s explanation within the SONAR for the definition of “capacity” within Minnesota rules. The SONAR specifically provided that “capacity is, in effect, the *amount of electricity actually produced*.”¹⁰¹ The relevant section from the SONAR which explains the Commission’s rule definition of “capacity” is provided in **Appendix 1**.

Xcel also argued that the Commission’s definition of “capacity” is controlled and unchanged by the Minnesota rule definition of “point of common coupling.” Minnesota rules defines the “point of common coupling” as:

⁹² DEA Initial Comments at 7-8.

⁹³ Xcel Reply Comments at 2.

⁹⁴ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Otter Tail Power Reply Comments at 1 (September 17, 2024) (hereinafter “OTP Reply Comments”).

⁹⁵ MREA Initial Comments at 7

⁹⁶ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Power Reply Comments at 1 (September 17, 2024) (hereinafter “MP Reply Comments”).

⁹⁷ Minn. R. 7835.0100, subp. 4.

⁹⁸ DEA Initial Comments at 7-8.

⁹⁹ DEA Initial Comments at 8, citing Docket No. E-999/R-13-729, Order Adopting Rules at 4 (July 17, 2015).

¹⁰⁰ DEA Comments Initial at 8.

¹⁰¹ MREA Initial Comments at 7, citing Commission Statement of Need and Reasonableness, Docket No. E-999/R-13-729, at 3-4 (December 29, 2014).

The point where a qualifying facility’s generation system, ***including the point of generator output***, is connected to the utility’s electric power grid.¹⁰²

Simply, Xcel does not interpret the rule definition of “point of common coupling” to support the proposed interpretation because it may be inconsistent with the “point of generator output” included in the definition.¹⁰³

Lastly, Xcel argued that the Department and MnSEIA did not properly apply subd. 2 of Minnesota’s Public Utilities Regulation Policies Act (“PURPA”) Implementation statute in Minn. Stat. § 216B.164, which provides that Federal Energy Regulatory Commission (“FERC”) regulations under PURPA apply to all Minnesota electric utilities, and FERC regulations under PURPA require that capacity of a qualifying facility be measured based on the energy produced at the inverter with no load associated.¹⁰⁴

b. Customer Onsite Load is Not Considered

Opponents of the proposed interpretation also argued it is fundamentally flawed because it ignores customer load. Specifically, MREA argued that the proposed interpretation acts as if the customer’s load does not exist because it ignores the generation consumed by the customer at the site of generation.¹⁰⁵

Generally, DEA provided it was unclear how MnSEIA’s proposed interpretation could reasonably be applied, as the capacity of a DER system would vary over time with changes in customer load.¹⁰⁶ DEA claims that without certainty of load, there is no meaningful standard for whether a DER system meets the requirements of having less than 40 kW capacity.¹⁰⁷ DEA believes MnSEIA’s proposed definition would insert substantial uncertainty in determining whether a DER system qualifies for the net-metering rate if the DER system’s actual exports are greater than 40 kW.¹⁰⁸

In reply comments, the Department noted that utilities appear to interpret MnSEIA’s position as capacity measured at the point of common coupling on a variable basis with fluctuations in customer load.¹⁰⁹ In the Department’s view, it is not clear that fluctuations in customer load are relevant to MnSEIA’s position regarding the definition of capacity for purposes of net-metered rate eligibility.¹¹⁰ The Department argued that while the amount of energy exported may fluctuate, the capacity, or maximum capability to do so, remains fixed.¹¹¹ Fluctuations in

¹⁰² Minn. R. Ch. 7835.0100, subp. 17a.

¹⁰³ Xcel Reply Comments at 2.

¹⁰⁴ Xcel Reply Comments at 3.

¹⁰⁵ MREA Initial Comments at 5.

¹⁰⁶ DEA Initial Comments at 5.

¹⁰⁷ DEA Initial Comments at 5.

¹⁰⁸ DEA Initial Comments at 5.

¹⁰⁹ DOC Reply Comments at 5.

¹¹⁰ DOC Reply Comments at 5.

¹¹¹ DOC Reply Comments at 5.

customer load should not factor into net-metering eligibility. What factors into eligibility is the cumulative amount of energy exported, the net input to the utility system, when determining the compensations received by the DER owner.¹¹²

c. Inconsistent with the Purpose of Net-metering

Opponents of the proposed interpretation also argued that it conflicts with the purpose of net-metering. MREA argued that the net-metering statute is intended for DER systems that are designed to meet a customer's load and that net-metered compensation has always been tied to the 40kW cap on the size of the DER facility.¹¹³ MREA believed this cap is tied to an expectation under Minnesota law that net-metered DER systems will be constructed to meet some or all of a customer's demand, not to generate grid exports.¹¹⁴ The statutory definition of a "net-metered facility" is:

[A]n electric generation facility constructed **for the purpose of offsetting energy use** through the use of renewable energy or high efficiency distributed generation resources.¹¹⁵

If MnSEIA's proposed interpretation were adopted, then MREA argues that this would result in net-metering compensation for up to 39.99kW exported onto the utility's system even if the DER system generates substantially more than 40kW.¹¹⁶ Simply, it would allow for retail rate compensation for net qualifying facility exports without accounting for the distributed generation customer's offsetting use of the qualifying facility's production.¹¹⁷ Similarly, OTP¹¹⁸ and MREA¹¹⁹ argued that the net-metering provision differentiates between a qualifying facility's "net input" to the utility system and a "qualifying facilities capacity." Minn. Stat. § 216B.164, subd. 3(d) provides a qualifying facility's "net input" is eligible for compensation if the net input comes from a qualifying facility having less than 40 kW capacity.¹²⁰ MREA highlighted that if the statute had meant "export capacity" the statute could have stated "a qualifying facility's net input of up to 40 kW is eligible for retail rate compensation."¹²¹ But the statute does not state that, its states "a qualifying facility having less than 40 kW capacity."¹²²

Xcel also argued that the Uniform Statewide Contract identified the "rating" of a qualifying facility, and there are numerous qualifying facilities that have signed the Uniform Statewide

¹¹² DOC Reply Comments at 5.

¹¹³ MREA Initial Comments at 5.

¹¹⁴ MREA Initial Comments at 5.

¹¹⁵ Minn. Stat. 216B.164, Subd. 2a(j).

¹¹⁶ MREA Initial Comments at 5.

¹¹⁷ MREA Initial Comments at 5.

¹¹⁸ OTP Reply Comments at 2.

¹¹⁹ MREA Reply Comments at 2.

¹²⁰ MREA Reply Comments at 2.

¹²¹ MREA Reply Comments at 2.

¹²² OTP Reply Comments at 3.

Contract with a single set capacity size that applies to both MN DIP for interconnection studies and to net-metering rate eligibility.¹²³ Should the Commission adopt the proposed interpretation, then Xcel argued that there would need to be two contracts to reflect different sized systems.¹²⁴ OTP similarly argued that the Commission would need to establish a process to resolve the situation where a DER system exceeds the 40 kW export limit which would violate the Uniform Statewide Contract and the net-metering threshold.¹²⁵

Lastly, DEA highlighted that the legislative intent of net-metering is to encourage DERs sized to offset customer load, not sized to export to the utility.¹²⁶ DEA believed that the Legislature intended to set limits on the size of facilities that are eligible to receive the average retail utility energy rate by balancing the encouragement of cogeneration and small power production while also placing appropriate limitations to protect customers.¹²⁷ DEA is concerned that MnSEIA's interpretation moves away from the statutory requirement to build DER systems to offset energy used and risks crowding out smaller DER systems if larger, overbuilt DER systems take away available hosting capacity.¹²⁸

d. Disagreement over Point of Interconnection Location

Opponents of the proposed interpretation argued there may be a fundamental misunderstanding about the difference between the “point of interconnection” and the “point of common coupling” from commenters in support of the proposed interpretation in the context of Minnesota laws relating to net-metering.

Commenters opposed to the proposed interpretation argued that the Commission adopted the term “point of common coupling,” rather than “point of interconnection” because it was based on the understanding that these two concepts were not distinct when the Minnesota rule was adopted.¹²⁹

DEA¹³⁰ and MMUA¹³¹ argued that the definition of “point of common coupling” used to update Minnesota Rules 7835 in 2004 is not the same concept that is used today or in the arguments made by MnSEIA.¹³² DEA claimed that when the Commission promulgated these Rules in Chapter 7835, the Commission likely understood the “point of common coupling” to be

¹²³ Xcel Reply Comments at 4.

¹²⁴ Xcel Reply Comments at 4.

¹²⁵ OTP Initial Comments at 7

¹²⁶ DEA Initial Comments at 11.

¹²⁷ DEA Initial Comments at 11.

¹²⁸ DEA Initial Comments at 11-12.

¹²⁹ DEA Initial Comments at 8-9, citing Docket No. E-999/R-13-729, Commission Staff Briefing Papers at 5 (Oct. 23, 2014).

¹³⁰ DEA Initial Comments at 9.

¹³¹ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200, Minnesota Municipal Utilities Association Reply Comments at 2. (September 17, 2024)

¹³² DEA Initial Comments at 9.

what is referred now as the “point of DER connection” in MN DIP.¹³³ In 2004, the IEEE had not yet defined “point of DER connection,” it had only defined “point of common coupling” because there was not an envisioned difference between the two at that time.¹³⁴ DEA believed this information is important because the point of DER connection does not include any customer load and measures only the output of the DER system. Whereas, the point of common coupling, as defined in MN DIP, is based on where the distribution system connects to the customer’s electricity system and includes customer load.¹³⁵

The Department, in reply comments, noted that the Commission may wish to clarify whether DEA’s understanding is accurate. If it is accurate, then the current language of the point of common coupling associated with net-metering is not consistent with the definition of point of common coupling used in MN DIP.¹³⁶ **(Decision Option 3)**

e. Lack of Policy Support

Commenters opposed to the proposed interpretation also offered that it lacks policy support. MREA believed that if MnSEIA’s interpretation is accurate, then it would act as an economic incentive to build larger DER systems, untethered to a customer’s load, thereby contravening the purpose of net-metering.¹³⁷ MREA believed the practical implications of the proposed interpretation would produce a bad policy outcome for consumers because it would encourage solar developers to overbuild DER systems for the purpose of maximizing net kWh sales to the utility – effectively maximizing the sale of wholesale electricity supply at a retail rate, instead of building to meet a customer’s load with retail compensation for some limited net excess generation.¹³⁸

In reply comments, the Department recognized the concern raised by commenters in opposition to export capacity that such an interpretation of “capacity” would incentivize larger DER systems to access a more lucrative average retail rate, shifting distribution costs to other ratepayers, but the Department believes such a concern remains hypothetical and unquantified.¹³⁹

Should such a concern materialize, the Department argued that Minn. Stat. § 216B.164 provides remedies to protect ratepayers from excessive potential rate impacts. First, Minn. Stat. § 216B.164, subd. 4c provides public utilities the ability to limit the generation capacity of a DER System to 120 percent of the customer’s on-site maximum electricity demand.¹⁴⁰ Second, Minn. Stat. § 216B.164, subd. 3(a) provides cooperatives and municipal utilities the ability to charge an additional fee to net-metered customers for purposes of recovering

¹³³ DEA Initial Comments at 8-9.

¹³⁴ DEA Initial Comments at 9.

¹³⁵ DEA Initial Comments at 9.

¹³⁶ DOC Reply Comments at 4.

¹³⁷ MREA Initial Comments at 6.

¹³⁸ MREA Initial Comments at 6.

¹³⁹ DOC Initial Comments at 6.

¹⁴⁰ DOC Initial Comments at 6.

remaining fixed costs.¹⁴¹

To address the concern that a DER system owner may export excess electricity onto the grid, the Department identified that the DER system owners are required to operate such systems per the terms in the interconnection agreement. If the DER system owner violates the terms of the agreement, including exporting energy at a higher capacity than stated in the interconnection agreement, then the utility has the ability to provide notice of default and, potentially, terminate the interconnection agreement.¹⁴²

In response to the use of a power control system, DEA has expressed opposition to allowing a power control system specifically to qualify for the net-metering rate.¹⁴³ DEA is not opposed to using a power control system to limit export capacity onto the grid. However, DER does not believe that a DER system should be allowed to limit its export to the grid specifically to qualify for the net-metering rate.¹⁴⁴ DEA argued that if a system does not utilize an export limiting device, such as a power control system, the maximum AC capacity that could be transmitted from a DER system to the utility is the AC aggregate nameplate rating of the DER.¹⁴⁵ If a DER uses a power control system to limit export, there could be several points in time where the DER could export greater than 40 kW even if the export limit is set to 40 kW.¹⁴⁶

MREA also argued that the current industry practice has existed when the Legislature enacted the current definition of capacity in 2013 and there has been no evidence presented that the Legislature's definition was intended to change this practice.¹⁴⁷ Commenters opposed to this proposed interpretation argued that no credible basis has been provided for departing from this universal, long-standing practice of measuring capacity at the qualifying facility's inverter for its AC output for both interconnection and net-metered rate eligibility.¹⁴⁸ MREA understands MnSEIA's interpretation to be an unprecedented change in how capacity is determined that would conflict with widespread industry practice in Minnesota and around the Country.¹⁴⁹

Lastly, Xcel argued that interpreting capacity differently from current industry practice may create additional possible cascading impacts if the Commission were to now re-interpret the definition of capacity in other cases such as:¹⁵⁰

- What qualifies for the DSES, which has a limit of 10 MW capacity?
- What is the Commission's authority to review major facilities with a capacity of 50 MW or more?

¹⁴¹ DOC Initial Comments at 6.

¹⁴² DOC initial Comments at 6.

¹⁴³ DEA Initial Comments at 16.

¹⁴⁴ DEA Initial Comments at 16.

¹⁴⁵ DEA Initial Comments at 15.

¹⁴⁶ DEA Initial Comments at 15.

¹⁴⁷ MREA Reply Comments at 4.

¹⁴⁸ MREA Reply Comments at 2.

¹⁴⁹ MREA Initial Comments at 2.

¹⁵⁰ Xcel Reply Comments at 4.

- What is the Commission’s authority to review Large Energy Facilities of 50 MW or more?

2. Counterarguments to Current Industry Practice

a. Nameplate Rating Does Not Appear in Statute or Rule

Commenters against the current industry practice argued that the utilities and utility advocates interchangeably used “AC Output” to mean “nameplate rating.” However, the term “nameplate rating” and the term “AC Output” do not appear in Minn. Stat. § 216B.164. These commenters argued that the legislature knew of this term, knew how to use it, and chose not to use it in 216B.164.¹⁵¹

Nokomis argued that the Commission should apply the canons of interpretation when reading the statutory definition of “capacity.”¹⁵² To determine whether a statute is unambiguous Nokomis argued the Commission should analyze the statute’s text, structure, and punctuation using the canons of interpretation. The canons of interpretation include (i) the plain meaning, (ii) the whole-statute, and (iii) the canon against surplusage. To determine its plain meaning, the Commission should look to the rules of grammar and give “capacity” its plain and ordinary meaning in the context of this statute. The Commission must avoid an interpretation that renders a word or phrase superfluous and ensure that each word in the statute is given effect. The Commission also cannot add words or modify the words in the statute.¹⁵³

Nokomis believed the statutory definition of “capacity” is clear – it is the measure at the point of interconnection between a distributed generation facility and a utility’s electric system. It is not at the inverter or the facility’s AC output.¹⁵⁴ Similarly, defining “capacity” to mean “nameplate capacity” would violate the canons of interpretation because the Commission would add words to the statute.¹⁵⁵

The OAG similarly argued that the definition of capacity for purposes of net-metered rate eligibility is in subd.2a(c), not in subdivision 3 for net-metered facilities. Therefore, the Commission should follow the statutory definition of “capacity” as written – the number of megawatts alternating current at the point of interconnection between a distributed generation facility and a utility’s electric system.¹⁵⁶ Further, “capacity” does not mean “nameplate capacity” because subd. 2a(c) provides a clear definition.¹⁵⁷

¹⁵¹ *In the Matter of the Impacts of the “Capacity” Definition in Minn. Stat. § 216B.164 and Associated Rules on Net Metering Eligibility for Rate-Regulated Utilities*, Docket No. E002, E111, E017, E015/CI-24-200 Office of Attorney General, Residential Utility Division Reply Comments at 2 (September 17, 2024) (hereinafter “OAG RUD Reply Comments”).

¹⁵² Nokomis Reply Comments at 2-3.

¹⁵³ Nokomis Reply Comments at 2-3.

¹⁵⁴ Nokomis Reply Comments at 4.

¹⁵⁵ Nokomis Reply Comments at 4.

¹⁵⁶ OAG RUD Reply Comments at 1

¹⁵⁷ OAG RUD Reply Comments at 2.

MnSEIA argued that the utilities and such advocacy groups attempt to create a new definition of “capacity” for purposes of net-metering rate eligibility.¹⁵⁸ For example, MREA states “it is the facility’s production capacity, measured by its AC at the point of DG interconnection and reflected in its nameplate rating of the facility’s inverters.”¹⁵⁹ MnSEIA argued this definition is notable because it lacks any citation to any statute, rule, or other authority. Most importantly, MnSEIA argued, it ignores the words “between a qualifying facility and the utility’s electric system” and adds the words “nameplate rating of the facility’s inverters.”¹⁶⁰

MnSEIA further rejected the utilities claim that there is no meaningful way to measure whether the facility meets the requirement of having less than 40 kW capacity. The utilities have a bi-directional meter at the point of interconnection/common coupling that measures the energy exported from the DER and this is how each utility currently determines how much to charge or credit its net-metered customers.¹⁶¹ So long as the energy exported does not exceed 40 kW, MnSEIA argues that the facility would be eligible for net-metering compensation.¹⁶²

Lastly, MnSEIA argued that many commenters argued that “point of interconnection and point of DER connection” are synonymous and interchangeable in industry practice, but MnSEIA argued that no commenter has provided a source to support this assertion.¹⁶³ Further, even if engineers used these terms interchangeably to denote the location directly after the inverters on the AC side, that is not how the term is used in 216B.164, subd. 2a(c).¹⁶⁴ MnSEIA argued that the statute states that capacity “means the number of megawatts AC at the point of interconnection between a distributed generation facility and a utility’s electric system.”¹⁶⁵ Simply, MnSEIA argued that the utilities’ arguments miss the most important words in the statutory definition of capacity - “between a distributed generation facility and a utility’s electric system.”¹⁶⁶

CEEM also points out that “nameplate rating” may not provide as fixed of a definition as some commenters make it out to be as other utilities across the country have defined it differently.¹⁶⁷ The American Public Power Association defines nameplate capacity as “capacity labeled as operating and restarted as well as capacity that is on standby and mothballed.”¹⁶⁸ The Energy Information Administration defines capacity as “the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer. Installed generator nameplate capacity is commonly

¹⁵⁸ MnSEIA Reply Comments at 7.

¹⁵⁹ MnSEIA Reply Comments at 7.

¹⁶⁰ MnSEIA Reply Comments at 7.

¹⁶¹ MnSEIA Reply Comments at 19.

¹⁶² MnSEIA Reply Comments at 19.

¹⁶³ MnSEIA Reply Comments at 14.

¹⁶⁴ MnSEIA Reply Comments at 19.

¹⁶⁵ MnSEIA Reply Comments at 19-20 (emphasis added).

¹⁶⁶ MnSEIA Reply Comments at 19-20

¹⁶⁷ CEEM Reply Comments at 4.

¹⁶⁸ CEEM Reply Comments at 4.

expressed in MW and is usually indicated on a nameplate physically attached to the generator.”¹⁶⁹ The Nebraska Municipal Power Pool distinguishes capacity based on the generation resource and Dakota Electric’s use of capacity is consistent with traditional fossil fuel resources, not renewable resources.¹⁷⁰ Based on these differing definitions of nameplate rating, CEEM argued that the traditional nameplate capacity for DERs is flawed and misplaced to understand cogeneration and small power production.¹⁷¹ Instead, the Commission should follow Minnesota law and measure capacity according to its export capacity measured at the utility’s bi-directional meter for small renewable energy resources.

b. MN DIP and Customer Load

MnSEIA argued that it is understandable that utilities start with nameplate capacity, or AC output, to determine whether a DER can safely and reliability be interconnected to the distribution system.¹⁷² However, MnSEIA argued that nameplate rating is just the starting point and it is not the final and only way a DER can be evaluated under MN DIP.¹⁷³ Any DER system that fails the initial screen is required to be evaluated again, focusing on the actual impact of the system, not the theoretical maximum impact as guided by the nameplate rating.¹⁷⁴

Further, MnSEIA argued that the MN DIP is helpful to distinguish between the Point of DER Connection and the Point of Common Coupling.

The Point of DER Connection, as defined in MN DIP, is:

Where an individual DER is electrically connected in a Local EPS.¹⁷⁵

The Point of Common Coupling, as defined in MN DIP, is:

Where the qualified facility is interconnected with the utility’s electric system.¹⁷⁶

In making this distinction, MnSEIA argued utilities continue to argue these terms are synonymous according to engineers to denote the location “directly after the inverter(s) on the Alternating Current side,” that is not the terms used in Minn. Stat. 216B. subd. 2a(c).¹⁷⁷

Further, as previously shown in **Figure 2**, customer load is located behind the point of common coupling and if that is where capacity is measured, as indicated by MnSEIA’s arguments, then it

¹⁶⁹ CEEM Reply Comments at 4.

¹⁷⁰ CEEM Reply Comments at 5.

¹⁷¹ CEEM Reply Comments at 4.

¹⁷² MnSEIA Reply Comments at 11.

¹⁷³ MnSEIA Reply Comments at 11.

¹⁷⁴ MnSEIA Reply Comments at 11.

¹⁷⁵ MnSEIA Reply Comments at 15, citing MnSEIA Exhibit A (Diagram from MN DIP) and MnSEIA Exhibit B (Figure 2 from TIIR).

¹⁷⁶ MnSEIA Reply Comments at 15, citing TIIR page 15.

¹⁷⁷ MnSEIA Reply Comments at 14.

will exclude the amount of energy consumed by the customer load.¹⁷⁸

In short, MnSEIA argued that MN DIP explicitly recognizes that while the starting point for evaluating the impact of interconnecting a DER system is its nameplate capacity, that evaluation changes if the actual export capacity is less than the nameplate capacity as demonstrated in MN DIP.¹⁷⁹

In response to the argument that the proposed interpretation is flawed because it excludes load, the Department argued that while the amount of exported electricity may fluctuate, the capacity, or the maximum capability to do so, remains fixed.¹⁸⁰ However, in the Department's review of the proposed interpretation, fluctuations in customer load are not relevant to whether a qualifying facility is *eligible* for net-metering compensation.¹⁸¹

While the Minnesota Rule definition of "capacity" does provide its "capability to produce," the Department argued that distributed generation will often be producing less than that maximum amount and export less than the maximum amount onto the utility's system due to a variety of factors, such as weather conditions or a power control system.¹⁸² Simply, the Department argued that fluctuations in customer load should not factor into eligibility for net-metering compensation.¹⁸³

c. Distinct from Net-metered Facilities

Both MnSEIA and the Department argued that a net-metered facility and a qualifying facility are not synonymous under statute.¹⁸⁴ MnSEIA argued several commenters in favor of AC output cite to the definition of a "net-metered facility," but do not realize that the eligibility for net-metering compensation is based on the definition of a "qualifying facility."¹⁸⁵ MnSEIA further argued that the definition of a net-metered facility is only relevant for DER systems over 40 kW because that definition applies to subd. 3a titled "net-metered facility." Meanwhile, subd. 3(d) applies to a "qualifying facility." Simply, there is a statutory distinction between a "net-metered facility" and a "qualifying facility," and utilities continue to rely on the definition of "net-metered facility" when those commenters should be relying on the definition of "qualifying facility."¹⁸⁶

Further, the Department highlighted the statutory and rule distinctions between a qualifying facility and a net-metered facility within Minn. Stat. 216B.164. A qualifying facility is used

¹⁷⁸ MnSEIA Reply Comments at 15.

¹⁷⁹ MnSEIA Reply Comments at 12.

¹⁸⁰ DOC Reply Comments at 5.

¹⁸¹ DOC Reply Comments at 5.

¹⁸² DOC Reply Comments at 5.

¹⁸³ DOC Reply Comments at 5.

¹⁸⁴ MnSEIA Reply Comments at 8.

¹⁸⁵ MnSEIA Reply Comments at 8.

¹⁸⁶ DOC Initial Comments at 5.

throughout Minn. Stat. 216B.164, but it is only defined in Minn. R. 7835.0100.¹⁸⁷ In contrast, a “net-metered facility” is defined in both Minn. Stat. 216B.164 and Minn. R. 7835.0100, therefore, the Department argued that Minnesota statutes and rules contemplate net-metered facilities as distinct from a qualifying facility and the limitations for a net-metered facility to offset energy use would only apply to a net-metered facility.¹⁸⁸ While the Department does agree that a “net-metered facility” is a subset of a qualifying facility, the Department did argue the two are separate and distinct.¹⁸⁹

d. Lack of Policy Support

CEEM argued that using nameplate capacity, or AC output, would produce an absurd result because it would overstate DER performance given a system’s capacity factor.¹⁹⁰ In a practical example, CEEM explained that while a homeowner may be constrained at the point of common coupling, the homeowner should not be constrained on the size, or capacity, of its solar and battery storage system.¹⁹¹ If a homeowner needed a 60 kW solar and battery storage system to meet its 35 kW electricity needs then, under the utilities’ position, the homeowner would be short at least 25 kW.¹⁹² To avoid this absurd outcome, CEEM argued it would be good policy to allow homeowners to obtain the right sized system for such needs and only be constrained by the legal requirement at the point of common coupling – to limit export capacity to 40 kW.¹⁹³

Further, MnSEIA¹⁹⁴ and CEEM¹⁹⁵ argued that limiting qualifying facilities to producing only enough energy to offset the onsite customer load would not further Minnesota’s policies and goals to encourage renewable energy. It also prevents a DER owner from providing excess generation that can be used by neighbors, which reduces the need for the utility to generate electricity at a distant location and transport it through its transmission and distribution system.

e. Responses to Xcel

MnSEIA responded to two arguments from Xcel. First, MnSEIA responded to Xcel’s assertion that measuring capacity for purposes of battery storage systems eligible for net-metering compensation should be explored by the DGWG.¹⁹⁶ MnSEIA provided that there is no need for the DGWG to explore this consideration for battery storage systems because eligibility for net-metering compensation will be construed in the same manner as it is for solar energy or other distributed generation, according to the statutory definition of “capacity” which is between the qualifying facility and the utility’s electric system at the point of interconnection/common

¹⁸⁷ DOC Initial Comments at 5.

¹⁸⁸ DOC Initial Comments at 5.

¹⁸⁹ DOC Initial Comments at 5.

¹⁹⁰ CEEM Reply Comments at 5.

¹⁹¹ CEEM Reply Comments at 6.

¹⁹² CEEM Reply Comments at 6.

¹⁹³ CEEM Reply Comments at 6.

¹⁹⁴ MnSEIA Reply Comments at 8.

¹⁹⁵ CEEM Reply Comments at 6.

¹⁹⁶ MnSEIA Reply Comments at 19-20.

coupling.¹⁹⁷

Second, MnSEIA responded to Xcel’s argument that the Commission should follow the FERC’s application of PURPA. While, MnSEIA agreed with Xcel that “the capacity of a qualifying facility should be measured in the same consistent way for all PURPA and net-metering purposes,” MnSEIA believed that Xcel failed to recognize that the “net output” of a behind the meter system necessarily has to be measured differently than a front of the meter PURPA meter.¹⁹⁸ Nokomis¹⁹⁹ and MnSEIA²⁰⁰ agreed in its response to Xcel that capacity may be determined differently for different purposes. Nokomis argued it is perfectly reasonable for a federal agency to determine what a single facility is under PURPA using one methodology and for a state to determine whether a customer is eligible for net-metering under another methodology.²⁰¹

D. Reliability Concerns

Commenters discussed reliability concerns should the Commission be interested in MnSEIA’s proposed interpretation. Commenters limited discussion to whether or not the proposed interpretation would impact reliability.

1. Reliability Concerns Regarding Export Capacity

DEA and OTP²⁰² argued that determining capacity based on the amount of energy exported to the grid at the utility’s bi-directional meter would make administering net-metering compensation extremely difficult.²⁰³ DEA shares that there is significant amount of testing required to verify if a DER system operates at a capacity different from its nameplate capacity. That even non-exporting DER systems can cause safety and reliability issues for the distribution system and, therefore, do requirement consideration of the nameplate capacity.²⁰⁴ In support of the difficulties posed in administering the proposed interpretation, MREA provided two exhibits of testimony from professional engineers, who are also active participants in the DGWG, and are supportive of MREA’s comments as a whole.²⁰⁵

OTP argued that if the Commission adopts the proposed interpretation, then the Commission would need to establish a process to deal with a DER System that exceeds the export limit of 40 kW because such an action may be a breach of the Uniform Statewide Contract and net-metering capacity of 40 kW.²⁰⁶ Specifically, the Commission would need to set thresholds for

¹⁹⁷ MnSEIA Reply Comments at 20.

¹⁹⁸ MnSEIA Reply Comments at 22.

¹⁹⁹ Nokomis Reply Comments at 5.

²⁰⁰ MnSEIA Reply Comments at 22.

²⁰¹ Nokomis Reply Comments at 4.

²⁰² OTP Initial Comments at 7.

²⁰³ DEA Initial Comments at 12.

²⁰⁴ DEA Initial Comments at 12.

²⁰⁵ MREA Initial Comments Exhibit 1 and 2.

²⁰⁶ OTP Initial Comments at 7.

what would be considered “significant exceeds export” and whether this means removal from net-metering rate eligibility is permanent, temporary, or something else.

In response to reliability concerns regarding export controls, DEA argued a power control system is load following, meaning that if load changes then it needs to measure the load and then respond by curtailing the DER system.²⁰⁷ DEA is concerned that there may be moments when the load instantaneously drops and there is a delay in which a power control system measures the load and can appropriately curtail the DER system output.²⁰⁸ In such moments, DEA argued that this may create a situation when a 40 kW export limited DER would export over the 40 kW threshold. Should this happen, DEA is concerned it could cause distribution system issues and affect reliability.²⁰⁹

2. No Concerns Regarding Export Capacity

MnSEIA²¹⁰ and the Department²¹¹ provided that adopting the proposed interpretation would not pose any reliability issues because the current industry practice uses nameplate capacity for the interconnection study and net-metering rate eligibility. By studying the greatest impact the qualifying facility could have on the utility’s system, which MnSEIA highlights can only occur during ideal weather conditions for solar energy, makes it less likely that reliability issues will occur because the maximum generation will rarely, if ever, be exported to the utility’s system.²¹²

For example, MnSEIA provided that if a utility conducts an interconnection study of a 25 kW PV system with a 20 kW battery, resulting in a 45 kW nameplate rating, then the DER system could only produce 25 kW of alternating current AC electricity because the inverter is used to convert both the DC electricity from the solar panels and the DC electricity system from the battery.²¹³ Therefore, MnSEIA claims that such a DER system could never export more than 25 kW at any point in time.²¹⁴

a. MN DIP Reliability Protections

The Department argued that under the proposed interpretation, utilities would retain significant discretion to ensure its concerns regarding safety and reliability are sufficiently addressed in MN DIP. Specifically, any limited DER system “must obtain the Area EPS Operator’s agreement that the manner in which the Interconnection Customer proposes to implement such a limit will effectively limit active power output so as to not adversely affect the safety and

²⁰⁷ DEA Initial Comments at 15.

²⁰⁸ DEA Initial Comments at 15.

²⁰⁹ DEA Initial Comments at 45.

²¹⁰ MnSEIA Initial Comments at 9.

²¹¹ DOC Initial Comments at 8.

²¹² MnSEIA Initial Comments at 11.

²¹³ MnSEIA Initial Comments at 9-10.

²¹⁴ MnSEIA Initial Comments at 10.

reliability of the Area EPS Operator’s system.”²¹⁵

The Department also advocated that a utility can use a power control system, as represented in the MN DIP, to ensure safety and reliability concerns prior to interconnection.²¹⁶ A power control system can not only limit the export capacity of a DER, thus making the qualifying facility eligible for net-metering compensation, but also give the utility the ability to maintain safety and reliability of its distribution system by limiting amount of electricity exported onto the utility’s system.²¹⁷ In addition, the Department argued that if concerns from the utility are not met, then the utility has the ability to withdraw or revise the interconnection agreement.²¹⁸

b. Workgroup Discussions

While Nokomis Energy did participate in the *ad hoc* work group, Nokomis Energy was not aware of any reliability problems advanced by any commenters.²¹⁹ If the power control system or inverter derating is used to limit the capacity, Nokomis Energy offered a utility might appropriately require different types of certification, or a different inspection at energization.²²⁰ Nokomis Energy would welcome any participation to further discuss appropriate standards and controls should the Commission be interested.

IV. Additional Considerations

In the *ad hoc* workgroup, commenters shared that there appeared to be consensus regarding treatment of non-exporting battery energy storage systems and inverter configuration, however, commenters were unable to reach an overall agreement within the workgroup.²²¹ OTP recommended that if the Commission is interested in developing this discussion, commenters have recommended advancing this subject to the distributed generation workgroup²²² (**Decision Option 3**). However, the Department argued that it is not clear that the DGWG would fully address the issues in questions. Specifically, the Commission may wish to clarify whether the directive to the DGWG is intended to encompass the treatment of battery storage systems for purposes of net-metered rate eligibility.²²³

Lastly, MnSEIA raised the point that if a utility is determining upgrade costs based on nameplate capacity of the DER, and the nameplate capacity of the DER exceeds the actual impact the DER will have on the utility’s electric system, then MnSEIA argued that the utility is possibly charging

²¹⁵ DOC Initial Comments at 8, citing MN DIP Section 5.14.3 at 29-30.

²¹⁶ DOC Reply Comments at 6.

²¹⁷ DOC Rely Comments at 6

²¹⁸ DOC Initial Comments at 8-9, citing MN DIP Section 5.14.3 at 29-30.

²¹⁹ Nokomis Initial Comments at 2.

²²⁰ Nokomis Initial Comments at 2.

²²¹ DEA Initial Comments at 3.

²²² OTP Initial Comments at 1.

²²³ DOC Reply Comments at 7

the DER owner for unnecessary upgrades because the DER system is unlikely to export its maximum capacity at a single point in time.²²⁴ MnSEIA recommends that it may be worth investigating further whether the claims by many utilities that they use nameplate capacity to evaluate interconnection without recognition that both the MN DIP and TIIR allow DER owners to limit their output.²²⁵

V. Staff Analysis

The issue in this case is *where* Minnesota law dictates how to measure capacity of a qualifying facility for net-metering compensation. While all commenters agree that capacity is measured “at the point of interconnection,” as stated in the statutory definition, commenters disagreed on where *specifically* the point of interconnection is physically located. The utilities, MREA and MMUA argue that current industry practice satisfies Minnesota law by measuring capacity at a qualifying’s facility’s inverter, for its AC output (**Decision Option 1**). While CEEM, the Department, MnSEIA, and Nokomis all argued that capacity, based on the proposed interpretation of Minnesota law, is measured at a qualifying facility’s bi-directional utility meter, for its export capacity. (**Decision Option 2**)

Should the Commission be persuaded by a specific argument within the record, the Commission may adopt either **Decision Option 1** or **2**. Alternatively, the Commission may initiate a rulemaking proceeding to clarify the Minnesota rule definition of “point of common coupling” as commenters largely disagreed over this definition. (**Decision Option 4**)

A. Rulemaking to Clarify Minnesota Rules

The record demonstrates disagreement over the Minnesota rule definition of the “point of common coupling” and whether it is consistent with modern applications in MN DIP and industry practice. Disagreement over this definition is significant because this term may help determine under Minnesota law where to measure capacity for purposes of net-metering rate eligibility.

More specifically, Otter Tail Power provided in reply comments that:

The basis behind MnSEIA and Nokomis Energy’s misconstrued and incorrect conclusions is their misunderstanding of the differences between the Point of DER Connection/Interconnection/Point of Common Coupling...[these commenters] are seemingly conflating the [point of DER connection and point of interconnection] definition with the definition of the [point of common coupling] as if they represent the same point within the system.²²⁶

DEA similarly provided,

²²⁴ MnSEIA Reply Comments at 16.

²²⁵ MnSEIA Reply Comments at 17.

²²⁶ OTP Reply Comments at 2.

The Commission’s adopted use of the term “point of common coupling” rather than using the statutory term “point of interconnection” was based on its understanding and intent that the point of interconnection and the point of common coupling are not necessarily distinct concepts. When the Commission promulgated these Rules, the Commission likely understood the “point of common coupling” to be what is referred to as the “point of DER connection” under the MN DIP...

This is important because the [point of common coupling as defined in Minnesota rule] does not include any customer load and measures only the output of the qualifying facility, whereas, the point of common coupling, as defined in the current MN DIP, [does include customer load.]

In the simplest sense, the definition of “point of common coupling” used in the update to Minnesota Rules 7835 is not the same concept that is used today or in the arguments made by MnSEIA.²²⁷

In reply comments, the Department offered that:

The Commission may wish to clarify whether DEA’s understanding is accurate, as DEA’s understanding as stated would indicate that the current language of [point of common coupling] in the rules associated with net-metering is not consistent with the definition of [point of common coupling] used in MN DIP.²²⁸

Minnesota Power also provided that:

There may be confusion regarding the distinction between the point of interconnection (used in statute) and the [point of common coupling] (as used in rulemaking)...[Minnesota Power] notes that the Commission may wish to amend the rulemaking language to avoid this misconception in the future.²²⁹

Given the confusion over the Minnesota rule definitions of the “point of common coupling,” and whether it is consistent with the definition provided within MN DIP, commenters have recommended the Commission amend the Minnesota rules definition of “point of common coupling.”

Staff notes that while a rulemaking proceeding may help commenters resolve this dispute going forward, Staff notes that such rule definitions are often intended for general applicability and are applied on a case-by-case basis. Staff questions whether this issue is ripe for a rulemaking proceeding or if the Commission needs more experience with the material impacts of the current industry practice to better understand the problem and possible solutions. However,

²²⁷ DEA Initial Comments at 9.

²²⁸ DOC Reply Comments at 4.

²²⁹ MP Reply Comments at 1-2.

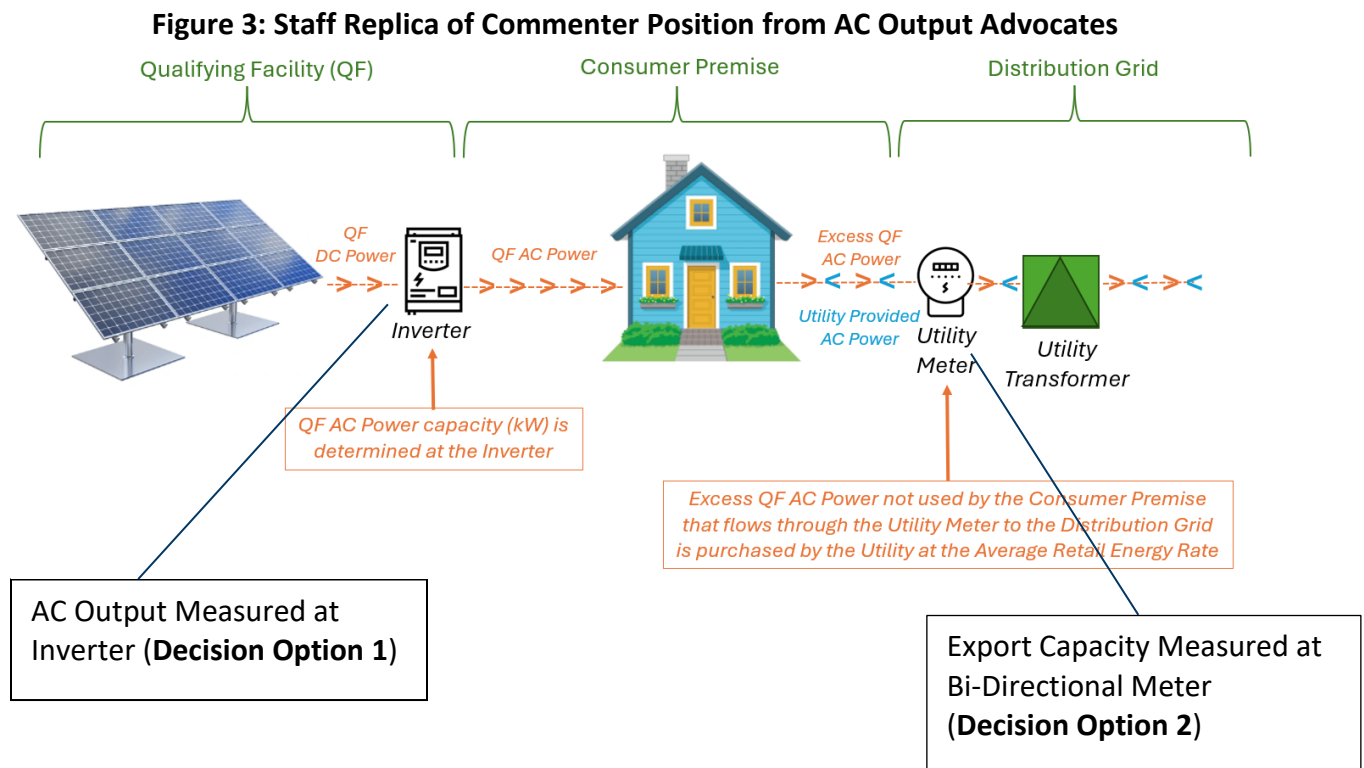
Staff does find benefit in amending the Minnesota rule definition of “point of common coupling” to align it more accurately with modern day understandings and applications.

Should the Commission be interested in amending Minnesota rules, Staff provides **Decision Option 4** to initiate a rulemaking proceeding on the Minnesota rule definition of “point of common coupling.” Staff does note that it may be helpful to further narrow the scope of the rulemaking proceeding by pairing **Decision Option 4** with **Decision Option 1 or 2**. Adopting **Decision Option 4** in a pair would provide guidance to commenters on how the issue may be resolved and certainty that the Commission’s determination would be consistent with Minnesota rule.

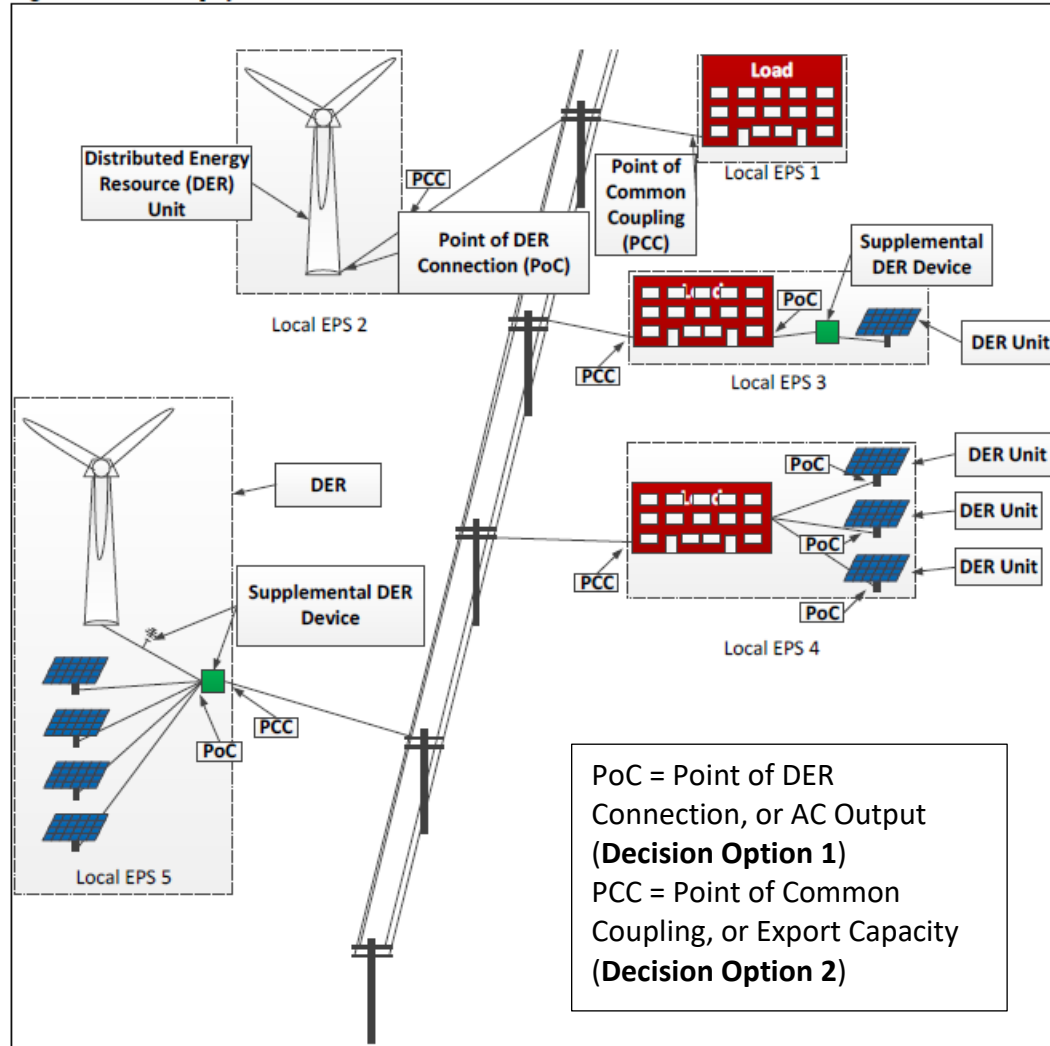
B. Statutory Context Arguments

Should the Commission be persuaded by the arguments offered in the record, then the Commission will need to decide whether capacity is measured, for purposes of net-metering rate eligibility, at the qualifying facility’s inverter or at the utility’s bi-directional meter.

The Commission may consider the statutory context on the point of interconnection, Minnesota’s statutory policies, and reliability concerns in making such a determination. To illustrate the position of each side in the record, Staff has recreated commenter positions into **Figure 3** of an illustration provided in the record.



Staff has also recreated the positions of each commenter into **Figure 4**, a secondary illustration provided in the record and pulled from MN DIP.

Figure 4: Staff Replica of Commenter Positions from Export Capacity Advocates*Figure 2. Relationship of Terms*

To justify each position, commenters first turned to Minnesota statutes and rules. Both sides of the issue rely on the same Minnesota statutory and rule definitions of “capacity” and “point of common coupling” to support its recommended decision option.

1. In Favor of the Current Industry Practice

Staff understands commenters in favor of the current industry practice to rely on the words “capability to produce” within the Minnesota rule definition of “capacity” and “the point of generator output” within the Minnesota rule definition of “point of common coupling” to argue that the point of interconnection is at the qualifying facility’s inverter. **(Decision Option 1)**

The Minnesota Rule definition of “capacity” in full reads:

[T]he capability to produce, transmit, or deliver electric energy, and is measured by the

number of megawatts alternating current at the point of common coupling between a qualifying facility and a utility's electric system.²³⁰

The Minnesota Rule definition of “point of common coupling” provided in full reads:

[T]he point where the qualifying facility's generation system, including the point of generator output, is connected to the utility's electric power grid.²³¹

Commenters in favor of capacity measured at the inverter by its AC output have argued that the point of interconnection and the point of common coupling have been commonly understood in the industry to be the output of generating devices, exclusive of any offset from load.²³² Commenters argue that this understanding is consistent with the remainder of the statutory definition of capacity, that details the interconnection between the utility's system and “distributed generation.”²³³

Staff also highlights that the SONAR for the rule definition of “capacity,” found in **Appendix 1**, may be consistent with the current industry practice because it may suggest that the Minnesota rule was intended to clarify that capacity “is measured by the amount of electricity produced.” Staff notes that commenters in favor of the proposed interpretation did not reference the SONAR in initial and reply comments.

The SONAR reads:

It is necessary to update the rules to incorporate the recent statutory changes, which define capacity as the “number of megawatts alternating current at the point of interconnection between a distributed generation facility and the utility's electric system.” Under this definition, capacity is, in effect, the amount of **electricity actually produced**. It is therefore reasonable to incorporate this language into the rules by stating that capacity is the capability to produce, transmit, or deliver electricity and is **measured by the amount produced**.²³⁴

However, commenters in favor of the current industry practice have argued that the “point of interconnection” has been “*commonly understood* in industry practice to be the output of the generating device(s), exclusive of any offset from the load.”²³⁵ Staff questions whether the Commission can rely on a “commonly understood definition” of the “point of interconnection” provided by the utilities in the record. While commenters in favor of this position have argued the common understanding is consistent with Minnesota laws, Staff finds the SONAR to be

²³⁰ Minn. R. 7835.0100, subp. 4.

²³¹ Minn. R. 7835.0100, subp. 17(a).

²³² MP Initial Comments at 2.

²³³ DEA Initial Comments at 6.

²³⁴ MREA Initial Comments at 7, citing Commission Statement of Need and Reasonableness at 3-4, Docket No. E-999-R-13-729 (December 29, 2014).

²³⁵ DEA Initial Comments at 6.

helpful in clarifying the statutory and rule definition of “capacity.”

Staff understands the position of these commenters to be – a qualifying facility is eligible for net-metering compensation if its maximum production capability is 40 kW or less because the point of interconnection is located at the qualifying facility’s inverter. If the Commission is persuaded by these arguments, then Staff provides **Decision Option 1** which can be supported by the statutory language, Commission precedent and the SONAR. Further, such a determination is unlikely impose significant reliability concerns as it would continue current industry practice.

2. In Favor of the Proposed Interpretation

The initial dispute arose out of differing interpretations of the statutory definition of “capacity,” which provides:

[T]he number of megawatts alternating current at the point of interconnection between a distributed generation facility and a utility’s electricity system.²³⁶

Staff understands commenters who are in favor of the proposed interpretation rely on the words “between a distributed generation facility and a utility’s electric system” to argue that the point of interconnection where capacity is measured is at the utility’s bi-directional meter. (**Decision Option 2**) Commenters in favor of this position lean on these words because the bi-directional utility meter is physically located *between* the distributed generation facility and a utility’s system, and the statutory definition of “capacity” only asks what is *between* those two physical points.

Commenters in favor of the proposed interpretation argue the qualifying facility’s maximum generation capacity is irrelevant to determine eligibility because the statutory definition of “capacity” only asks what is *between* the qualifying facility and the utility’s system. The only relevant measurement to determine eligibility is whether 40 kW or less have been exported onto the utility’s system, otherwise known as the qualifying facility’s export capacity.

These commenters also argued that the “point of interconnection” and the “point of common coupling” are synonymous in Minnesota statute and rule and have been used interchangeably. That capacity is measured at the point of interconnection or the point of common coupling between the qualifying facility and the utility’s system.

Staff understands the position of these commenters to be - regardless of how much electricity is used by the customer load and regardless of how large their DER system is, so long as no more than 40kW are exported from the qualifying facility to the utility’s system then the qualifying facility is eligible for net-metering compensation. Further, a power control system could be used to limit the DERs export capacity onto the utility’s system and, therefore, make the DER system eligible for net-metering compensation.

Staff also understands the practical operations of the proposed interpretation may mirror the

²³⁶ Minn. Stat. § 216B.164, subd. 2a(c).

Department's comments which highlights the use of the power control system to ensure no more than 40kw is exported onto the utility's system:

If the proposed operation of a DER system using a power control system satisfies utility concerns and the operator and utility complete an interconnection agreement, then the limited export capacity, below that of a nameplate capacity, should determine net-metered rate eligibility."²³⁷

In review of these arguments, it is unclear to Staff whether customer load is or is not considered within the proposed interpretation. Commenters appear to argue that load would not be considered for eligibility purposes because Minnesota law only directs that the capacity of a qualifying facility is determined "between a qualifying facility and a utility's system." However, Staff understands the customer load exists between the qualifying facility and the utility's system in **Figure 4**. The Department attempted to clarify this confusion by providing:

Utilities appear to interpret MnSEIA's position as export capacity at the point of common coupling on a variable basis with fluctuations in customer load. In the Department's review of MnSEIA's comments filed in this proceeding, it is not clear that fluctuations in customer load are relevant to MnSEIA's position regarding the definition of capacity for purposes of net-metered rate eligibility...while the amount of energy exported may fluctuate, the capacity, or the maximum capability to do so remains fixed. Fluctuations in customer load should not factor into net-metering eligibility.²³⁸

Here, the Department agreed with the commenters supportive of the current industry practice that using variable capacity would be "impractical to determine eligibility and would be an absurd outcome. Determination of eligibility requires a fixed value for capacity."²³⁹ However, the Department distinguished its support for the proposed interpretation by reasoning that inverter settings, power control systems, MN DIP, the TIIR, and an interconnection agreement can all control the export capacity of a qualifying facility to beneath the 40kW threshold in statute. The Department may be suggesting that fluctuating load is not relevant for eligibility, but it is unclear to Staff whether load would or would not be considered in practically applying such an interpretation.

If the Commission is interested in adopting MnSEIA's proposed interpretation in **Decision Option 2**, then Staff advises the Commission to also adopt **Decision Option 5** to further develop the record on the implications of such a determination. Further, the Commission may seek to clarify and reflect its determinations made in this proceeding into Minnesota Rules (**Decision Option 4**) should the Commission be interested in making such clarifications.

C. Furtherance of Minnesota Policies

Commenters in favor of the proposed interpretation (**Decision Option 2**) argue that it would

²³⁷ DOC Reply Comments at 6.

²³⁸ DOC Reply Comments at 5.

²³⁹ DOC Reply Comments at 5.

further Minnesota’s policies to maximize the encouragement of cogeneration and small power production. Adopting this proposed interpretation would allow DER owners to develop and own a larger DER system and export up to 40 kW. For example, CEEM argued that a homeowner should not be constrained on the size, or capacity, of its solar and battery storage system. A homeowner may be constrained at the point of common coupling, but if a homeowner actually needed 60 kW of solar and battery storage system to meet its 35 kW electricity needs, then the homeowner should be able to purchase such a system. However, CEEM argued that under the industry’s current practice, a homeowner would not be eligible for net-metering compensation.²⁴⁰

On the opposing side, opponents of the proposed interpretation believe the current practice (**Decision Option 1**) is consistent with Minnesota’s policy regarding net-metering. In response to the Department’s suggestion that a power control system could be used to make any DER system eligible for net-metering compensation, DEA argued that doing so would create bad policy. DEA does not believe allowing such a practice would further Minnesota’s net-metering policies and goals, which are intended to offset an individual customer’s load.

These commenters also identified that the current reading of the statutory and rule definition of “capacity” is consistent with the Uniform Statewide Contract found in Minnesota Rules. Should the Commission adopt the proposed definition, commenters in favor of the current industry practice argue that additional revisions may be necessary to clarify how this new interpretation would impact the Uniform Statewide Contract. To clarify any potential confusion, should the Commission adopt **Decision Option 2**, Staff recommends the Commission also adopt **Decision Option 5** to clarify these topics.

Additionally, MREA specifically argued that adopting the proposed interpretation would create bad policy by incentivizing developers to construct qualifying facilities larger than needed to offset customer load and would maximize the sale of wholesale electricity supply at a retail rate. Such a policy would bear the financial burden resulting from this expansion of retail rate compensation for wholesale supply.²⁴¹

Staff acknowledges the competing State policy goals to give the maximum possible encouragement to cogeneration and small power production and the goal to protect ratepayers from unknown rate impacts. MREA’s concerns note a lack of record development on the potential rate impacts of the proposed interpretation and, while Staff is not taking a policy position in this analysis, it is Staff’s opinion that the record is insufficient on future rate impacts should the Commission adopt **Decision Option 2** alone. Should the Commission be interested in further developing the record on the potential rate impacts of the proposed interpretation, then Staff provides **Decision Option 6** to discuss the rate impacts of such a determination.

Staff also believes there may be some merit to Xcel’s statement in reply comments that the proposed interpretation of “capacity” may have some cascading impacts on other programs.

²⁴⁰ CEEM Reply Comments at 5-6.

²⁴¹ MREA Initial Comments at 6.

Xcel cites the Distributed Solar Energy Standard 10 MW capacity limit under Minn. Stat. § 26B.1691, Subd. 2h and the major facilities capacity threshold of 50MW under Minn. Stat. § 216B.24 as possible areas this interpretation could have cascading effects.²⁴² Staff also notes that this interpretation may impact the size of interconnected CSGs and future CSGs as well. The impacts this interpretation may have are uncertain which may give more support to **Decision Option 4**, to further develop the record regarding the impacts the proposed interpretation may have on other DER programs and policies.

Lastly, commenters disputed whether the issue of eligibility for net-metering compensation extends into battery storage. Some commenters have advocated this issue be brought into the DGWG (**Decision Option 3**), but others have argued battery storage should be treated equally to other DERs for net-metering rate eligibility. Should the Commission seek to refer this matter to the DGWG group, it may adopt **Decision Option 3**, or it may adopt **Decision Option 5** to further develop the record on this issue.

While Staff believes that the topic of storage strays somewhat from the scope of this docket it is related to issues that the DGWG is currently reviewing. In Order Paragraph 7 of the Commission's April 15, 2024 Order in Docket 16-521, the DGWG was tasked with following:

The Commission directs the DGWG to explore if and how battery storage systems should be evaluated under the MN DIP. Topics to discuss would include: should the battery storage and DER generation be studied on a combined basis in the interconnection process, and whether or not net-metered DER plus storage applications should be treated differently under the MN DIP than non-exporting DER plus storage applications.

D. Reliability Concerns

Commenters limited the discussion of reliability to whether the proposed interpretation would create reliability concerns if it were adopted. Staff notes that commenters who participated in the *ad hoc* workgroup explained that no reliability issues were presented under current industry practice.

Commenters in favor of and opposed to the proposed interpretation differed on whether the proposed interpretation would create reliability issues. Commenters in favor of proposed interpretation (**Decision Option 2**) argued no reliability problems would exist because it is only under ideal conditions that a qualifying facility be able to export its maximum output onto the utility's system, so it is highly unlikely reliability issues would result should the Commission adopt the proposed definition.

However, commenters opposed to the proposed interpretation argued an abundance of reliability and administrative issues would result should the Commission adopt the proposed interpretation. DEA argued specifically that additional testing would have to be conducted and

²⁴² Xcel Reply Comments at 4.

a fluctuation in load may impact the export capacity of a qualifying facility, resulting in unknown risks that may be posed should load impact the export capacity. Additionally, DEA noted that even if a power control system were to be used to limit the export capacity of a qualifying facility, there may be moments when the power control system fails or is unable to prevent energy greater than 40 kW from being exported onto the utility's distribution system.

Staff understands that the nameplate rating of the DERs is determined in the interconnection process and studies as the Department describes. This assumes that the DER's impact on the distribution grid is studied assuming the output should never achieve greater than the nameplate value which ensures reliability. Commissioners may ask commenters to provide more detail on how a shifting load under this scenario would threaten reliability.

Commissioners may also ask the utilities to speak to the relative risk of the power control system failing that DEA identified as this would be an issue if **Decision Option 2** is adopted and systems could be built beyond 40kW nameplate capacity, but the systems were only studied for interconnection assuming 40kW export. If there is uncertainty on this end, or if the risk is high enough, questions such as whether the utilities and DEA should assume the full nameplate capacity of the system in the interconnection process, even if the export capacity of the system is smaller and fixed, need to be answered. This may give further support for **Decision Option 5**.

Should the Commission adopt **Decision Option 2** and share the concerns raised by DEA and other advocates of the proposed interpretation, then Staff offers **Decision Option 5** to further clarify how net-metering compensation could be administered without sacrificing reliability under the proposed interpretation.

DECISION OPTIONS

The Commission may adopt either Decision Option 1 or 2.

1. Clarify that “capacity,” as defined in Minn. Stat. § 216B.164, subd. 2a(c), for purposes of eligibility for the net-metering rate in Minn. Stat. § 216B.164, subd. 3(d), is measured at the qualifying facility’s inverter.
(Dakota Electric Association, Minnesota Power, Otter Tail Power, Xcel Energy, MREA, MMUA)

OR

2. Clarify that “capacity,” as defined in Minn. Stat. § 216B.164, subd. 2a(c), for purposes of eligibility for the net-metering rate in Minn. Stat. § 216B.164, subd. 3(d), is measured at the utility’s bi-directional meter.
(MnSEIA, Department, Nokomis Energy, Clean Energy Economy Minnesota)

The Commission may also adopt Decision Options 3, 4, 5 or 6.

3. Refer the issue of battery storage eligibility for net-metering compensation to the Distributed Generation Work Group.
(Otter Tail Power)
4. Delegate authority to the Executive Secretary to open a new rulemaking proceeding to amend the Minnesota Rules definition of “point of common coupling,” in Minn. R. 7835.0100, subp. 17(a).
(Staff Alternative)
5. Delegate authority to the Executive Secretary to open a new proceeding to further develop the record in this proceeding.
(Staff Alternative)
6. Delegate authority to the Executive Secretary to open a new proceeding to discuss the rate impacts if capacity, for purposes of eligibility for the net-metering rate in Minn. Stat. § 216B.164, subd. 3(d), is measured at the utility’s bi-directional meter.
(Staff Alternative)

Appendix 1

Excerpt from Commission SONAR published in *In the Matter of Possible Amendments to Rules Governing Cogeneration and Small Power Production, Minnesota Rules Chapter 7835*, Docket No. E-999/R-13-729, Statement of Need and Reasonableness at 4. (December 29, 2014)

Subp. 4. "Capacity"

Capacity. "Capacity" means the capability to produce, transmit, or deliver electric energy, and is measured by the number of megawatts alternating current at the point of common coupling between qualifying facility and utility's electric system.

This proposed rule incorporates the statutory language in addition to retaining existing rule language.

It is necessary to update the rules to incorporate the recent statutory changes, which define capacity as the "number of megawatts alternating current at the point of interconnection between distributed generation facility and the utility's electric system." Under this definition, capacity is, in effect, the amount of electricity actually produced. It is therefore reasonable to incorporate this language into the rules by stating that capacity is the capability to produce, transmit, or deliver electric energy and is measured by the amount produced.

Further, it is reasonable to include in the definition of capacity the term "qualifying facility," rather than "distributed generation facility," which is type of qualifying facility. Capacity is used in statutory provisions and rule parts governing interconnections between utilities and all qualifying facilities; without use of "qualifying facility," the term capacity could be unreasonably excluded from applying to rule parts where the term is used.

It is also reasonable to use the term "point of common coupling," which is used in the Commission's interconnection standards as the point where the customer's electric power system connects to the utility's power system. Although the "point of interconnection" and the "point of common coupling" are commonly used interchangeably, the proposed rule's use of "point of common coupling" is consistent with earlier Commission decisions.²⁴³

Some advisory committee members suggested further clarifying capacity by requiring that it be measured based on standard 15-minute time intervals. Others suggested measuring capacity based on net input. The statute does not prescribe whether capacity is measured over standard 15-minute intervals or other time interval, such as daily or monthly average.

²⁴³ *In the Matter of Establishing Generic Standards for Utility Tariffs for Interconnection and Operation of Distributed Generation Facilities under Minnesota Laws 2001, Chapter 212*, Docket No. E-999/CI-01-1023, Order Establishing Standards (September 28, 2004); and *In the Matter of the Petition of Northern States Power Company d/b/a Xcel Energy for Approval of its Proposed Community Solar Garden Program*, E-002/M-13-867, Order Approving Solar Garden Plan with Modifications (September 17, 2014).

The proposed rule does not incorporate 15-minute interval for measuring capacity, in part because 15-minute standard is not applicable to all rule parts where the term is used and also because it raises compliance issues that the proposed rules do not address. Further, industry practice is to specify in Commission-approved utility tariffs that standard 15-minute intervals are used for measuring capacity to determine applicable billing rates, making the suggested specificity unnecessary.