

ATTACHMENT M

Transmission Facility Ratings

I. Definitions:

Capitalized terms not defined in this Attachment M shall have the meaning set forth in Module A of the Tariff. The following definitions apply for purposes of this Attachment M:

(1) “Transmission Facility Rating” means the maximum transfer capability of a transmission facility, computed in accordance with a written Transmission Facility Rating methodology and consistent with Good Utility Practice, considering the technical limitations on conductors and relevant transmission equipment (such as thermal flow limits), as well as technical limitations of the Transmission System (such as system voltage and stability limits) that comprise the series path of the facility. Relevant transmission equipment may include, but is not limited to, circuit breakers, line traps, and transformers.

(2) “Ambient-Adjusted Rating” (AAR) means a Transmission Facility Rating that:

- (a) applies to a time period of not greater than one hour.
- (b) reflects an up-to-date forecast of ambient air temperature across the time period to which the rating applies.
- (c) reflects the absence of solar heating during nighttime periods, where the local sunrise and sunset times used to determine daytime and nighttime periods are updated at least monthly, if not more frequently.
- (d) Is calculated at least each hour, if not more frequently.

(3) “Dynamic Line Rating” means a transmission facility rating that applies to a time period of not greater than one hour and reflects up-to-date forecasts of inputs such as (but not limited to) ambient air temperature, wind, solar heating intensity, transmission line tension, or transmission line sag.

(4) “Seasonal Transmission Facility Rating” means a Transmission Facility Rating that:

(a) Applies to a specified season, where seasons are defined by the Transmission Owner to include not fewer than four seasons in each year, and to reasonably reflect portions of the year where expected high temperatures are relatively consistent.

(b) Reflects an up-to-date forecast of ambient air temperature across the relevant season over which the rating applies.

(c) Is calculated annually, if not more frequently, for each season in the future for which Transmission Service can be requested.

(5) “Near-Term Transmission Service” means Transmission Service which ends not more than 10 days after the Transmission Service request date. When the description of obligations below refers to either a request for information about the availability of potential Transmission Service (including, but not limited to, a request for ATC), or to the posting of ATC or other information related to potential service, the date that the information is requested or posted will serve as the Transmission Service request date. “Near-Term Transmission Service” includes any Point-To-Point Transmission Service,

Network Resource designations, or secondary service where the start and end date of the designation or request is within the next 10 days.

(6) “Emergency Rating” means a Transmission Facility Rating that reflects operation for a specified, finite period, rather than reflecting continuous operation. An Emergency Rating may assume an acceptable loss of equipment life or other physical or safety limitations for the equipment involved.

II. General:

Beginning on July 11, 2025, the Transmission Provider will implement Transmission Facility Ratings based on information received from Transmission Owners on the transmission facilities over which the Transmission Provider

(1) has functional control or,

(2) provides Reliability Coordination services; except for those facilities owned by Coordinating Owners who have not elected to implement Transmission Facility Ratings in accordance with this Attachment M. For the limited purposes of this Attachment M, the term “Transmission Owner” includes Transmission Owners, Independent Transmission Companies and other entities that have either transferred functional control to or receive reliability coordination services from the Transmission Provider except Coordinating Owners.

III. System Reliability:

If the Transmission Owner, or Transmission Provider as Reliability Coordinator, reasonably determines, consistent with Good Utility Practice, that the temporary use of a Transmission Facility Rating different than would otherwise be required by this Attachment M is

necessary to ensure the safety and reliability of the Transmission System, then the Transmission Owner or Transmission Provider may use such a temporary alternate rating. The Transmission Provider must, on OASIS or another password-protected website as required by this Attachment M, document in its database of Transmission Facility Ratings and Transmission Facility Rating methodologies the use of a temporary alternate Transmission Facility Rating under this Section III, including:

- a. the nature of and basis for the temporary alternate rating,
- b. the date and time the alternate rating was initiated (*i.e.*, became effective),
- c. (if applicable) the date and time the alternate rating was withdrawn and the standard rating became effective again

Unless the Transmission Provider as reliability Coordinator has determined that an alternate rating is required, the Transmission Owner shall provide the Transmission Provider with the information contained in section III(b) prior to the date and time of initiation and the information contained in Section III(a) as soon as practicable, but in all events not later than five (5) business days or such shorter timeframe as may be specified in the Business Practices Manual after such temporary alternate rating was first initiated.

IV. Obligations of Transmission Owners:

A. Communication and Documentation of Transmission Facility Ratings and Methodologies

Except as provided in Section IV.C of this Attachment M, each Transmission Owner shall, for each transmission facility that it owns and that meets the criteria of section I of this Attachment M to the Transmission Provider:

1. Electronically communicate to the Transmission Provider AAR information at least once each hour in a format to be specified in the applicable Business Practices Manual to the ISO's EMS, Market Systems, and other impacted systems via SCADA or a functionally similar mechanism described in the applicable Business Practices Manual.
2. Electronically communicate to the Transmission Provider Seasonal Transmission Facility Ratings as defined in this Attachment M for not less than four seasons at least each calendar year together with information that identifies the period to which such Seasonal Ratings apply. Such Seasonal Transmission Facility Ratings shall be submitted in a format to be described in the applicable Business Practices Manual.
 - a. Review ratings calculation assumptions and inputs at least once per calendar year and, if there are changes, update each corresponding Seasonal Rating.
3. Electronically communicate to the Transmission Provider an Emergency Rating as defined in this Attachment M together with information that identifies the duration of such Emergency Rating for use in AAR, Seasonal Rating, and Dynamic Line Rating, if a Transmission Owner elects to implement Dynamic Line Ratings. The Transmission Owner shall calculate its Emergency Ratings for AARs, Seasonal Ratings and Dynamic Line Ratings, if a Transmission Owner elects to implement Dynamic Line Ratings, independently and uniquely from the Normal Rating using the technical

capabilities of the installed equipment and subject to Good Utility Practice.

Such uniquely determined Emergency Ratings must also include separate

AAR calculations for each Emergency Rating duration used.

4. Provide documentation of the applicable methodology for the derivation of the

Transmission Facility Ratings required by Sections IV.A(1)-(3) of this

Attachment M in a format specified by the applicable Business Practices

Manual. The provided Rating methodology(ies) shall cover all transmission

equipment and facilities within the scope of this Attachment M for each time

period to which the Transmission Facility Rating applies.

5. The Transmission Facility Rating included in the AAR, Seasonal Facility

Ratings, or Emergency Ratings information provided by the Transmission

Owner may or may not include all technical limitations of the Transmission

System (such as system voltage and stability limits) that comprise the series

path of the facility. The Transmission Provider shall augment the

Transmission Facility Rating with technical limitations of the Transmission

System (such as system voltage and stability limits) that comprise the series

path of the facility to establish System Operating Limits.

B. Development of Transmission Facility Ratings and Methodologies

1. In developing forecasts of ambient air temperature for AARs and Seasonal

Transmission Facility Ratings, the Transmission Owners must develop such

forecasts consistent with Good Utility Practice and on a non-discriminatory

basis. Transmission Owners shall also use Good Utility Practice in developing

Emergency Ratings as required by this Attachment M.

2. Each Transmission Owner shall incorporate into their Transmission Facility Rating methodologies the following elements, as required by FERC Order No. 881:
 - i. Calculation of Normal Ratings for Seasonal Transmission Facility Ratings, Ambient Adjusted Ratings (AARs), and, if applicable, Dynamic Line Ratings, consistent with the requirements of this Attachment M.
 - ii. Calculation of Emergency Ratings for Seasonal Transmission Facility Ratings, Ambient Adjusted Ratings (AARs), and, if applicable, Dynamic Line Ratings, consistent with the requirements of this Attachment M.
 - iii. For Ambient Adjusted Ratings, Calculation of temperatures at which there is sufficient confidence that the actual temperature will not be greater than that temperature (i.e., expected temperature plus an appropriate forecast margin).
 - iv. Update at least monthly the sunrise and sunset times used to calculate Ambient Adjusted Ratings.
 - v. Calculate Ambient Adjusted Ratings that are valid for at least the range of local historical temperatures plus or minus a margin of 10 degrees Fahrenheit.
 - vi. Establish procedures to handle a situation where forecast temperatures fall outside of such a range of temperatures, to ensure the use of safe and reliable Transmission Facility Ratings, and in the event actual temperatures set new high or low records, revise systems providing ratings to the Transmission Provider, as necessary and within a timely manner and possibly in

coordination with the Transmission Provider, to maintain a 10 degree Fahrenheit margin.

vii. Update Ambient Adjusted Ratings at least with every five degree Fahrenheit increment of temperature change.

viii. Reflect an up-to-date forecast of ambient air temperature across the relevant season over which the Seasonal Transmission Facility Rating applies.

ix. Calculate uniquely determined Seasonal Transmission Facility Ratings at least annually, for each season in the future for which transmission service can be requested under the Tariff.

x. Develop forecasts of ambient air temperature for Ambient Adjusted Ratings and Seasonal Transmission Facility Ratings, consistent with Good Utility Practice and on a non-discriminatory basis.

C. Exceptions to Rating Requirements

1. Exceptions

AARs and Seasonal Transmission Facility Ratings shall not be required for an element of a transmission facility if the Transmission Owner determines, consistent with Good Utility Practice, that the Transmission Facility Rating of a transmission facility is not affected by ambient air temperature or solar heating. Examples of such a transmission facility may include (but are not limited to): (1) a transmission line for which the technical transfer capability of the limiting conductors and/or limiting transmission equipment is not dependent on ambient air temperature or solar heating; or (2) a transmission line whose transfer

capability is limited by a Transmission System limit (such as a system voltage or stability limit) which is not dependent on ambient air temperature or solar heating

2. Exception Procedure: For each facility that a Transmission Owner asserts an exception, such Transmission Owner shall communicate to the Transmission Provider electronically:

- a. A statement explaining the nature of and basis for the exception
- b. the date and time the alternate rating was initiated (*i.e.*, became effective),
- c. (if applicable) the date and time the exception was withdrawn and the standard rating became effective again

If the technical basis for an exception under this section changes, then the Transmission Owner must inform the Transmission Provider and provide appropriate ratings updates in a timely manner. The Transmission Owner must revalidate any exceptions taken under this Section at least every five years.

V. Obligations of Transmission Provider:

The Transmission Provider will have the following obligations. Obligations pertaining to transmission service also includes transmission service along the Transmission Provider's seams.

1. The Transmission Provider shall use AARs based on information provided by the applicable Transmission Owner as the relevant Transmission Facility Ratings when performing any of the following functions: (1) evaluating requests for Near-Term Transmission Service; (2) responding to requests for information on the availability of potential Near-Term Transmission Service (including requests for ATC or other information related to potential service); or (3) posting ATC or other information

- related to Near-Term Transmission Service to the Transmission Provider's OASIS site or another password-protected website.
2. The Transmission Provider must use AARs based on information provided by the applicable Transmission Owner as the relevant Transmission Facility Ratings when determining whether to curtail (under section 13.6 of the Tariff) Firm Point-To-Point Transmission Service or when determining whether to curtail and/or interrupt (under section 14.7 of the Tariff) Non-Firm Point-To-Point Transmission Service if such curtailment and/or interruption is both necessary because of issues related to flow limits on transmission lines and anticipated to occur (start and end) within 10 days of such determination. For determining whether to curtail or interrupt Point-To-Point Transmission Service in other situations, the Transmission Provider must use Seasonal Transmission Facility Ratings based on information provided by the applicable Transmission Owner as the relevant Transmission Facility Ratings.
 3. The Transmission Provider must use AARs based on information provided by the applicable Transmission Owner as the relevant Transmission Facility Ratings when determining whether to curtail (under section 33.7) or redispatch (under sections 33.2) Network Integration Transmission Service or secondary service if such curtailment or redispatch is both necessary because of issues related to flow limits on transmission lines and anticipated to occur (start and end) within 10 days of such determination. For determining the necessity of curtailment or redispatch of Network Integration Transmission Service or secondary service in other situations, the Transmission Provider must use received Seasonal Transmission Facility Ratings as

the relevant Transmission Facility Ratings.

4. The Transmission Provider must use Seasonal Transmission Facility Ratings based on information provided by the applicable Transmission Owner as the relevant Transmission Facility Ratings when evaluating requests for and whether to curtail, interrupt, or redispatch any Transmission Service not otherwise covered above in this section V (including, but not limited to, requests for non-Near-Term Transmission Service or requests to designate or change the designation of Network Resources or Network Load), when developing any ATC or other information posted or provided to potential customers related to such services.
5. Except as allowed by Section II of this Attachment M, the Transmission Provider must use Seasonal Transmission Facility Ratings based on information provided by the applicable Transmission Owner as a recourse rating in the event an AAR otherwise required to be used under this Attachment M is unavailable.
6. The Transmission Provider must use uniquely determined Emergency Ratings based on information provided by the applicable Transmission Owner for contingency analysis in the operations horizon and in post-contingency simulations of constraints. Such uniquely determined Emergency Ratings must also include separate AAR calculations for each Emergency Rating duration used.

The Transmission Facility Rating included in the AAR information provided by the Transmission Owner may or may not include all technical limitations of the Transmission System (such as system voltage and stability limits) that comprise the series path of the facility. The Transmission Provider shall augment the Transmission

Facility Rating with technical limitations of the Transmission System (such as system voltage and stability limits) that comprise the series path of the facility to establish System Operating Limits.

7. Postings to OASIS or another password-protected website: The Transmission Provider must maintain on the password-protected section of its OASIS page or on another password-protected website a database of Transmission Facility Ratings and Transmission Facility Rating methodologies. The database must:
 - a. Include a full record of all Transmission Facility Ratings, both as used in real-time operations, and as used for all future periods for which Transmission Service is offered.
 - b. Include any postings of temporary alternate Transmission Facility Ratings or exceptions used under Sections III or IV.C of this Attachment M including all information required to be communicated to the Transmission Provider by those sections.
 - i. The Transmission Provider shall promptly update its database in the event it receives information from a Transmission Owner stating the exception no longer applies or its nature has changed.
 - c. Include records of the Transmission Facility Ratings and Transmission Facility Rating methodologies in effect at which times over at least the previous five years, including records of which temporary alternate Transmission Facility Ratings or exceptions were in effect at which times during the previous five years.

- d. For each record in the database, indicate the transmission facility the record applies to, and the date and time the record was entered into the database.
 - e. Be maintained such that users can view, download, and query data in standard formats, using standard protocols.
 - f. If a password protected website other than the OASIS is used to interface to the database, the user access requirements to the website shall be no more restrictive than the access requirements to the OASIS.
8. Sharing with Transmission Providers: The Transmission Provider must share, upon request by any transmission provider or the MISO market monitor and in a timely manner, the following information:
- a. Transmission Facility Ratings for each period for which Transmission Facility Ratings are calculated, with updated ratings shared each time Transmission Facility Ratings are calculated, and
 - b. Written Transmission Facility Rating methodologies used to calculate the Transmission Facility Ratings in (1) above.

The Transmission Provider may comply with this requirement by providing access to MISO's Transmission Facility Ratings database, as described in section V.7 to the requesting transmission provider or MISO market monitor.

9. The Transmission Provider shall employ an electronic screening system to review received Transmission Facility Ratings information and methodology information received from Transmission Owners for errors and inconsistencies in accordance with the Business Practices Manuals. In the event the Transmission Provider's review

- identifies an error or inconsistency in the ratings information, the Transmission Provider shall promptly communicate such identification to the Transmission Owner. The Transmission Owner and Transmission Provider shall cooperate in correcting and resubmitting erroneous or inconsistent data thus identified.
10. The Transmission Provider shall establish and maintain the systems necessary to allow Transmission Owners to electronically update transmission facility ratings, including Dynamic Line Ratings if a Transmission Owner elects to implement such a system, for each period for which transmission facility ratings are calculated, at least hourly, with such data submitted by Transmission Owners directly to the RTO's/ISO's EMS, Market System, and other impacted systems via SCADA or functionally similar mechanism described in the applicable Business Practices Manual.
11. The Transmission Provider shall use AARs based on information provided by the applicable Transmission Owner as the relevant Transmission Facility Ratings for all market processes associated with SCED, SCUC, or other forward market dispatch or commitment with a market interval ending in the next 10 days for which a Transmission Facility Rating is utilized.