

HEADLINES

Staff Presentation | Final Order Regarding Managing Transmission Line Ratings

December 16, 2021

Docket No. RM20-16

Order No. 881

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Good morning Mr. Chairman and Commissioners.

Item E-1 is a draft final rule that reforms both the *pro forma* Open Access Transmission Tariff (or OATT) and the Commission's regulations to improve the accuracy and transparency of transmission line ratings.

Transmission line ratings represent the maximum transfer capability of each transmission line.

Today, transmission line ratings are often based on conservative assumptions about the worst-case, long-term air temperature and other weather conditions (for example, a hot summer day). Temperature and weather conditions vary day-to-day and hour-by-hour, but seasonal or static ratings are typically updated only when equipment is changed or weather assumptions are revised. Therefore, the line ratings may not accurately reflect the near-term transfer capability of the system. More accurate ratings can be achieved through the use of ambient-adjusted ratings (or AARs) and dynamic line ratings (or DLRs), both of which are the subject of this final rule. Unlike static ratings, which are calculated annually or seasonally, ambient-adjusted ratings are determined using near-term forecasted ambient air temperatures and updated day/night solar heating values. Dynamic line ratings are calculated using up-to-date forecasts of ambient air temperature, plus other weather conditions such as wind, cloud cover, solar heating intensity, and precipitation, in addition to transmission line conditions such as tension or sag.

The draft final rule identifies numerous consequences to using an inaccurate representation of system transfer capability. For example, because ambient air temperatures are nearly always less extreme than worst case assumptions, seasonal and static transmission line ratings often result in less available transmission system transfer capability than the transmission system can actually provide during many hours of the year. This increases congestion costs and causes costly curtailment, interruption, and redispatch decisions. At other times, however, seasonal or static transmission line ratings may *overstate* the near-term transfer capability of the system, creating potential reliability problems and inaccurately low congestion pricing. In either case, the use of seasonal and static assumptions results in transmission line ratings that do not accurately represent the transfer capability of the transmission system.

To address this concern, the draft final rule requires the following.

First, the draft final rule requires the implementation of ambient-adjusted ratings and seasonal ratings. Transmission providers would use Ambient-Adjusted Ratings for evaluating requests for *near-term* transmission service (defined as transmission service that ends within 10 days of the date of the request), and would use seasonal ratings for evaluating other, longer-term transmission service requests. The Final Rule does not adopt the proposal to stagger implementation of Ambient-Adjusted Ratings on historically

congested lines first, followed by all lines. Instead, the Final Rule requires implementation of ambient adjusted ratings for all lines that are impacted by air temperatures and requires implementation within 3 years of compliance filings.

Second, the draft final rule requires RTOs and ISOs to establish and implement the systems and procedures necessary to allow transmission owners to electronically update transmission line ratings at least hourly. The draft final rule recognizes that there may be instances in which transmission owners may wish to implement transmission line ratings that may be even more accurate than ambient adjusted ratings, such as dynamic-line ratings, but are unable to have such ratings reflected in RTO/ISO markets under those markets' current capabilities. The draft final rule would remove this barrier to use of these more accurate line ratings.

Third, the draft final rule requires transmission providers to use uniquely determined emergency ratings for contingency analysis in the operations horizon and in post-contingency simulations of constraints.

To increase transparency, the draft final rule requires transmission owners to share transmission line ratings and transmission line rating methodologies with their respective transmission providers and, in RTOs/ISOs, with their respective market monitors. The draft final rule also requires transmission providers to maintain a database of each transmission owner's transmission line ratings and transmission line rating methodologies on the transmission provider's Open Access Same-Time Information System site, or on another password-protected website. Such information sharing would increase situational awareness and improve the ability to verify the accuracy of transmission line ratings.

In addition, the draft final rule states that the Commission will continue to explore the implementation of Dynamic Line Ratings in a new docket.

Compliance filings are due 120 days after publication in the *Federal Register*.

We are happy to answer any questions you may have. Thank you.

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