Docket No. AD19-15-000

Statement of Amanda Frazier, Vistra Energy, regarding benefits of dynamically rated transmission facilities.

Commission Staff, I appreciate the opportunity to speak at today's technical conference on dynamic line ratings. My name is Amanda Frazier and I am the vice president of regulatory policy for Vistra Energy. I lead a team of professionals in advocating for competitive markets and good market design on behalf of our company. Vistra Energy is a publicly held integrated power company, that owns and operates generation plants in six of the seven U.S. competitive power markets: California ISO, Midcontinent ISO, PJM ISO, New York ISO, ISO-New England and the Electric Reliability Council of Texas (ERCOT) ISO and owns and operates competitive retail companies that sell electricity to our customers. My statement on the benefits of dynamically rated transmission facilities for generators and customers relies primarily on our experience in ERCOT.

In particular, in 2013, Oncor Electric Delivery Company (Oncor) undertook a pilot project in their service territory in ERCOT to implement dynamic line ratings (DLR), the success of which resulted in Oncor investing in the technology that allows them to use DLR for most of their transmission facilities today.[1] A number of Vistra Energy's generation facilities are interconnected on Oncor's facilities. Our experience is that DLR improved congestion management for our plants, allowed greater deliverability for our energy and has helped to optimize the beneficial use of the transmission system generally. Relieving congestion in high density load areas helps lower generation costs for customers, but also helps maximize revenues for those lower-cost generation resources that are a little further from load. In addition, because ERCOT ISO is able to utilize DLRs not only in its real-time dispatch systems, but also in its Day-Ahead market and to some extent in its Congestion Revenue Rights market, Vistra Energy benefits in its hedging costs as well. We would encourage other ISOs to incorporate DLRs and ambient-adjusted line rating capabilities into their markets as well.

- Would a requirement for transmission owners to implement AARs be appropriately applied to all transmission lines, or a subset of transmission lines? If a subset, how would the appropriate set of transmission lines be determined?

Any improvements to more accurately capture line ratings based on real conditions have benefits, but it makes sense to start with the larger kV lines and equipment first, since they will be more impactful in reducing congestion. That said, it is important to be aware that terminal equipment and downstream statically-rated lines can create a bottleneck effect that ultimately limits the effectiveness of DLRs if not implemented thoughtfully.

- Are there any anticipated benefits, challenges, or costs related to incorporating AARs into RTO/ISOs' energy management systems (EMS) (or other systems) that should be considered when evaluating this proposed requirement?

Systems that do not currently use AARs or DLRs are inherently overly conservative, since they are typically rated assuming a high ambient temperature (summer peak) and low amounts of convection cooling (wind). This conservatism implies that additional transmission capacity is often available and

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[1] See https://www.smartgrid.gov/files/Oncor_DLR_Case_Study_05-20-14_FINAL.pdf

could be used reliably if the actual ambient temperature or convection were known. This conservatism is expensive because it creates false congestion that raises the cost of energy for consumers. Incorporating more granular AARs or DLRs into market systems will deliver benefits. In ERCOT, ratings can be updated in real-time through telemetry, but even a monthly weather profile that allowed for a higher rating in May than in July, for instance, would be better than the typical one-rate-per-season typically used. Every degree of granularity that can be added only increases the accuracy of the transmission capability and reduces costs.

- How would AARs be incorporated into the determination of available transfer capability (ATC)? Specifically:
    - How would AAR-related changes to ATC affect point-to-point transmission service and network transmission service?
    - Would such changes to ATC have different effects on point-to-point transmission service in bilateral markets versus point-to-point transmission service in RTOs/ISOs (where point-to-point transmission service is largely relegated to through-and-out, and similar types of service)?
    - For what point-to-point transmission products (hourly, daily, etc.) should AARs affect ATC values?

ERCOT does not use physical transmission rights, so I do not have experience on how DLRs or AARs could be applied to point-to-point and network transmission service, but presumably those rights are sold based on deliverability over peak, so DLRs and AARs would also allow more transmission capacity to be sold when it is available.

- What, if any, updates would need to be made to RTO/ISO and/or transmission owner software and communications to accommodate their accepting and using an AAR data stream?

Vistra Energy defers to the RTO/ISO and transmission owners to address implementation costs.