

Integrating Dynamic Ratings into PJM Operations

Issue Source

PJM and FERC (see appendix to this Issue Charge for specific Commission directives from [Order No. 881](#) issued on December 16, 2021)

Issue Content

Develop guidance and requirements to facilitate PJM's operational implementation of dynamic ratings systems.

Key Work Activities and Scope

The scope of Phase 1 work is focused on developing guidance and requirements to facilitate PJM's operational implementation of dynamic ratings systems. Consistent with Order No. 881, the focus in Phase 1 will be enabling RTOs/ISOs to implement dynamic ratings to better reflect the actual transfer capability of the transmission system. Order No. 881 at P37, P255.

In Order No. 881, the Commission "decline[d] to mandate DLR implementation" and instead opened a new docket – Docket No. AD22-5-000 – "to further explore DLR implementation." Consistent with FERC's approach, upon completion of Phase 1, PJM's proposed Phase 2 will offer stakeholders an opportunity to further explore dynamic rating system implementation to the extent not already addressed by Order No. 881 and PJM's compliance filing in accordance with it.

Expected Deliverables

1. Stakeholder education
 - a. Education already provided: the March 30, 2021 [Operating Committee Special Session on DYNAMIC RATING Education](#).
 - <https://pjm.com/-/Dynamic Rating Impacts>
 - <https://pjm.com/-/Dynamic Rating Market Efficiency>
 - <https://pjm.com/-/Emergent Technologies Modeling Overview>
 - <https://pjm.com/-/Dynamic Line Ratings>
 - b. Additional education as needed
2. Phase 1: Develop guidance and requirements related to the operational and technical implementation of a new dynamic rating system. Likely codified in new or modified language in Manual 01, Section 3, Manual 03, Section 2, and Manual 03A, Appendix A.
3. Phase 2: Upon completion of Phase 1, the Operating Committee will be consulted and will provide further guidance on the next phase of work efforts to explore dynamic rating system implementation to the extent not already addressed by Order No. 881 and PJM's compliance filing made pursuant to it.

Out of Scope

See the phased approach above

Decision-Making Method

Tier 1, consensus (unanimity) on a single proposal

Stakeholder Group Assignment

All presentations and discussions regarding this issue will be handled within the routine monthly meetings of the OC.

Expected Duration of Work Timeline

It is expected that Phase 1 of this stakeholder issue at the Operating Committee will take approximately two months using CBIR Lite.

An expected duration of work for Phase 2 will be set following the completion of Phase 1 and in consultation with the Operating Committee.

Start Date	Priority Level	Timing	Meeting Frequency
Click here to enter a date.	<input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Immediate <input checked="" type="checkbox"/> Near Term <input type="checkbox"/> Far Term	<input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Quarterly

Charter

(check one box)

<input type="checkbox"/>	This document will serve as the Charter for a new group created by its approval.
<input checked="" type="checkbox"/>	This work will be handled in an existing group with its own Charter (and applicable amendments).

More detail available in M34; Section 6

Appendix:

Managing Transmission Line Ratings, Order No. 881, 177 FERC ¶ 61,179, at P37, P255 (2021) (“Order No. 881”):

P37: [C]urrent transmission line rating practices in RTOs/ISOs that do not permit the acceptance of DLRs from transmission owners that use DLRs are contributing to unjust and unreasonable wholesale rates by acting as a barrier to accurate transmission line ratings. Therefore, as part of remedying inaccurate transmission line ratings that result in unjust and unreasonable wholesale rates, we require RTOs/ISOs to establish and maintain the systems and procedures necessary to permit the acceptance of DLRs from transmission owners that use them. As the Commission explained in the NOPR, some RTOs/ISOs rely on software that cannot accommodate transmission line ratings that frequently change, such as DLRs.⁴⁹ Without reflecting such frequent changes to transmission line ratings, such software serves as a barrier that prevents transmission owners in RTOs/ISOs from implementing DLRs and better reflecting the actual transfer capability of the transmission system. The result is that, even if a transmission owner sought to implement DLRs, the RTO's/ISO's energy management system (EMS) may not be able to accept and use the resulting transmission line rating. The potential inability of RTOs/ISOs to accept and use a DLR prevents RTO/ISO markets from benefiting from the more accurate representation of current system conditions. Therefore, we require RTOs/ISOs to establish and maintain the systems and procedures necessary to permit the acceptance of DLRs from transmission owners that use them.

P255: [W]e adopt the Commission's proposal in the NOPR to require RTOs/ISOs to establish and maintain systems and procedures necessary to allow transmission owners to electronically update transmission line ratings (for each period for which transmission line ratings are calculated) at least hourly, with such data submitted by transmission owners directly into the RTO's/ISO's EMS through SCADA or related systems. We continue to find that, because DLR implementation may be economic in certain applications, absent RTOs/ISOs having these capabilities, voluntary implementation of DLRs by transmission owners in some RTOs/ISOs would be of limited value, as their more dynamic ratings and resulting benefits would not be incorporated into RTO/ISO markets. Absent these minimum capabilities, RTO/ISO software would serve as a barrier that prevents transmission owners in RTOs/ISOs from implementing DLRs that can better reflect the actual transfer capability of the transmission system and, consequently, wholesale rates would not remain just and reasonable. Additionally, as the Commission stated in the NOPR, we continue to expect that many of the systems and procedures RTOs/ISOs would need to develop to accept DLRs are likely to already be required as part of compliance with the AAR requirements adopted in this final rule.

In addition, effective March 14, 2022, Order No. 881 has amended Part 35, Chapter I, Title, 18 of the Code of Federal Regulations as follows:

18 C.F.R. § 35.28(g)(13)(i)

(g) *Tariffs and operations of Commission-approved independent system operators and regional transmission organizations.* * * *

(13) *Transmission line ratings*

(i) Each Commission-approved independent system operator or regional transmission organization must establish and maintain systems and procedures necessary to allow any public utility whose transmission facilities are under the independent control of the independent system operator or regional transmission organization to electronically update transmission line ratings for such facilities (for each period for which transmission line ratings are calculated) at least hourly, with such data submitted by those public utility transmission owners directly into the independent system operator's or regional transmission organization's EMS through SCADA or related systems.