UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Implementation of Dynamic Line Ratings	)))	Docket No. AD22-5-000

Reply Comments of the R Street Institute

I. Issue Summary

On Feb. 24, 2022, the Federal Energy Regulatory Commission (Commission or FERC) published a Notice of Inquiry (NOI) on the implementation of dynamic line ratings (DLRs).[1] Line ratings are determined by weather conditions and existing practices commonly use static or seasonal line ratings based on infrequent potential weather conditions, resulting in overly conservative assumptions relative to most real-time weather conditions. DLRs can increase the capacity, efficiency and/or reliability of transmission facilities by accounting for real-time weather conditions. The R Street Institute submitted initial comments on the NOI and hereby submits reply comments.[2]

These reply comments are divided into two parts. The first part augments R Street's initial comments by incorporating recent developments in related dockets, namely the notice of proposed rulemaking (NOPR) on transmission planning and announced technical conference to examine a role of an independent transmission monitor (ITM).[3] The second part replies to other parties' initial comments. Both parts incorporate insights from a new transmission policy paper by the R Street Institute that published after initial comments were submitted.[4]

II. Summary of R Street Position

Commentors, including utilities, agree that DLRs are net beneficial and constitute good practice in a number of circumstances, but not all. This is a clear acknowledgement that the status quo is not just and reasonable, but a requirement for uniform DLR adoption is not justifiable, unlike that in Order 881.[5] A

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[1] Federal Energy Regulatory Commission, *Implementation of Dynamic Line Ratings*, Notice of Inquiry, Docket No. AD22-5-000, Feb. 24, 2022. https://www.govinfo.gov/content/pkg/FR-2022-02-24/pdf/2022-03911.pdf.

[2] "Comments of the R Street Institute on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220426-5050&optimized=false.

[3] Federal Energy Regulatory Commission, *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, Notice of Proposed Rulemaking, Docket No. RM21-17-000, May 4, 2022. https://www.govinfo.gov/content/pkg/FR-2022-05-04/pdf/2022-08973.pdf; Federal Energy Regulatory Commission, *Transmission Planning and Cost Management*, Notice of Technical Conference, Docket No. AD22-8-000, April 21, 2022. https://www.ferc.gov/media/notice-technical-conference-docket-no-ad22-8-000.

[4] Jennifer Chen and Devin Hartman, "Transmission Reform Strategy from a Customer Perspective: Optimizing Net Benefits and Procedural Vehicles," *R Street Policy Study* No. 257, May 2022, p. 7. https://www.rstreet.org/wp-content/uploads/2022/05/RSTREET257.pdf.

[5] Federal Energy Regulatory Commission, *Managing Transmission Line Ratings*, Final Rule, Docket No. RM20-16-000, Order No. 881, Dec. 16, 2021. https://www.wrightlaw.com/62D00A/assets/files/documents/W0284102.PDF.

requirement for universal assessment and criteria-based adoption is prudent, given the absence of competition that would otherwise discipline incumbent transmission owners (TO) to adopt cost-effective practices.

The choice of optimal DLR policy instrument and implementation criteria likely hinges on the institutional arrangement. In this case, it concerns whether the Commission plans to implement an ITM outside of regional transmission organizations (RTOs) to remedy a severe informational deficit. DLR implementation fundamentally requires operating process reform, and thus planning reforms such as those in the NOPR are not a surrogate for reforms stemming from this proceeding.

III. Additional Response to NOI

The NOPR proposes to require transmission providers to "more fully consider" DLRs in regional transmission planning and cost allocation processes.[6] This is warranted, though such reform by itself may not affect DLR implementation materially for two reasons. First, transmission providers have a perverse incentive to consider DLRs given that they displace alternatives with greater rate base capitalization.[7] In the absence of truly independent transmission planning, which customer groups note is constrained by the incentives of voluntary RTOs and altogether absent outside of RTOs, any *pro forma* planning requirement on transmission providers will be limited in effect.[8]

Second, the core mechanism for DLR implementation lives in operating process reform, not planning process reform. However, modeling DLRs better in planning processes can help inform the prudence of changes to, and implementation of, operating process changes. For example, regional power flow modeling can assess the incremental net benefits of DLRs. Altogether, this underscores why reforms in the NOPR may benefit—but not supplant—the need for DLR reforms in this proceeding.

The forthcoming technical conference examines the potential role of an ITM. This institution could be far more important for DLR implementation than any changes to planning processes and directly affects any DLR policy strategy the Commission may consider. The benefits of an ITM and its relation to DLRs depends on the functions the Commission may bestow upon an ITM. Customer groups note that ITM functions could improve transparency, assist stakeholders in evaluating plans, run alternative scenarios and investigate alternative solutions that include DLRs.[9] This has undeniable intraregional value. Depending on the interregional scope of an ITM(s), it could also create a forum for examining how DLRs would affect joint dispatch between regions.

Should the Commission pursue an ITM, it would present an opportunity to conduct independent line-specific assessments outside of RTOs. This could make targeted DLR policy workable, especially the ability to evaluate congestion savings outside RTOs relative to the target criteria. However, requiring DLRs by default—with exceptions granted by cost-benefit analysis—may secure broader economical DLR adoption as some economical applications may exist below certain target criteria, such as congestion thresholds. Without an ITM, a rebuttable presumption that DLRs are prudent unless demonstrated

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[6] Federal Energy Regulatory Commission, Docket No. RM21-17-000, p. 26552. https://www.govinfo.gov/content/pkg/FR-2022-05-04/pdf/2022-08973.pdf.
[7] Chen and Hartman, p. 7. https://www.rstreet.org/wp-content/uploads/2022/05/RSTREET257.pdf.
[8] Ibid, pp. 3, 10, 12.
[9] Ibid, p. 3.

otherwise may be the only workable policy to effectuate net beneficial DLR adoption. Utilities do not have an incentive to pursue economical DLRs at their own discretion.

IV. Response to Other Parties' Initial Comments

Commentors, including utilities, generally recognize that DLRs are economical and underutilized in many, but not all, circumstances. For example, Potomac Economics correctly notes that ambient adjusted ratings (AARs) should be considered standard, good utility practice, but DLRs may not be economic in every case.[10] Potomac Economics accurately asserts that a uniform DLR requirement would therefore be misplaced, but a cost-effectiveness requirement that triggers DLR adoption may be reasonable.[11] Such triggers would be hard to determine outside RTO footprints, however, and economical DLR applications may exist below the trigger criteria. Thus, cost effectiveness could alternatively be used as the basis for granting exemptions to a rebuttable presumption of DLR adoption where thermal loading of the conductor establishes the line rating.

Utilities incorrectly state that it is "premature for the Commission to address DLRs requirements."[12] The U.S. Department of Energy's comments make clear that DLRs are commercially available and should be considered in a variety of transmission processes.[13] Utilities and the Transmission Access Policy Study Group make a valid argument that the sequence of DLR decisions relates to AAR implementation, per Order 881.[14] This may reasonably affect implementation timing and methods, but should not preclude the Commission from making a determination on DLR policy. As noted by Electricity Consumers Resource Council (ELCON), the Commission already determined that inaccurate transmission line ratings render wholesale electricity rates unjust and unreasonable, and therefore require DLRs.[15] Further, DLR regulatory clarity before AAR adoption may leverage implementation synergies.

Utilities incorrectly claim that DLRs are inappropriate for addressing longer-term system planning objectives.[16] This claim directly contradicts the rationale for DLR in the planning process provided in the NOPR. Implementing DLRs will provide ongoing real-time data which should be used to determine long-term ratings.

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[10] "Comments of Potomac Economics, LTD on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, pp. 3-4. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220426-5038&optimized=false.

[11] Ibid, p. 4.

[12] "Initial Comments of the Edison Electric Institute on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, p. 2. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5259&optimized=false.

[13] "Comments of the United States Department of Energy to Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, pp. iv, xi, 94 https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5307&optimized=false.

[14] "Comments of Transmission Access Policy Study Group on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, pp. 5-8. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5282&optimized=false.

[15] "Initial Comments of the Electricity Consumers Resource Council on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, p. 2. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5454&optimized=false.

[16] Edison Electric Institute, p. 5. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5259&optimized=false.

Utilities' arguments that DLRs create operational risks are red herrings.[17] The reliability risk of inaccurate line ratings is the problem, not efforts to improve their accuracy. As noted by Clean Energy Entities, situational awareness improves with more accurate real-time line limits in RTO and non-RTO regions alike.[18] Correct implementation addresses concerns of overstating line ratings.

Utilities incorrectly suggest that voluntary DLR encouragement is the best policy. Specifically, utilities suggest that "the Commission should encourage, but not require, TOs to consider DLR technology as an option to weigh against other methods of reducing congestion."[19] It is true that utilities hold unique knowledge about their own transmission systems. However, the problem is about motivation, not merely information.

ELCON correctly observes that the reluctance of TOs to install DLRs under the current cost-of-service regulatory construct requires mandates for DLR implementation.[20] ELCON continues that it is in TOs' financial interests to continue underrating their transmission facilities to justify building expensive new transmission facilities to grow their rate base.[21] This perverse incentive structure that deters economical DLR adoption is corroborated by the customer perspectives reflected in a new R Street Institute paper.[22] This supports the use of a forcing mechanism to require utility behavior change that would not occur on a voluntary basis due to misaligned financial incentives.

PJM notes that RTOs have better data to base decisions about where DLR is most beneficial.[23] If legally permissible, the Commission could apply the rebuttable presumption for DLRs outside non-RTO regions given the lack of independent assessment, while merely requiring RTOs or their independent market monitors to identify where DLR is economical in RTO regions. If an ITM is adopted outside RTO regions, the strict DLR requirement on utilities could be replaced with a requirement on the ITM to identify where DLR is economical.

Southern Companies incorrectly claim that DLR requirements outside RTO regions would be inappropriate because congestion cost savings are unique to RTOs.[24] Southern Companies suggest such savings result from financial markets that monetize congestion, unlike physical transmission services. This is, without doubt, wrong. Congestion results from physical constraints and has a variety of indicators outside of RTOs. For example, Clean Energy Entities note Transmission Loading Relief as one physical

[17] See, e.g., Edison Electric Institute, 2022, p. 9. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5259&optimized=false.
[18] "Comments of the WATT Coalition, American Clean Power Association, Advanced Energy Economy and Solar Energy Industries Association on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, p. 8. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5306&optimized=false.
[19] Edison Electric Institute, pp. 2-3. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5259&optimized=false.
[20] Electricity Consumers Resource Council, p. 7. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5454&optimized=false.
[21] Ibid.
[22] Chen and Hartman, p. 7. https://www.rstreet.org/wp-content/uploads/2022/05/RSTREET257.pdf.
[23] "Motion for Leave to Comment and Comments of PJM Interconnection, L.L.C. on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, p. 4. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220509-5157&optimized=false.
[24] "Comments of Southern Company Services, Inc. on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, p. 6. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5483&optimized=false.

constraint example.[25] Further, the congestion on Southern Companies' systems affects available transfer capacity, which has financial ramifications in bilateral markets, such as upward pricing pressures in power purchase agreements and elevated generation curtailment risk.

The problem outside of RTOs is inadequate congestion transparency. Southern Companies' argument implicitly admits how opaque congestion is in their system. This hinders open access to third parties and provides evidence in support of an ITM and market-based congestion management constructs.

V. Conclusion

RSI respectfully requests the Commission consider the comments contained herein.

Respectfully submitted,

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[25] "Comments of the WATT Coalition, American Clean Power Association, Advanced Energy Economy and Solar Energy Industries Association on the Notice of Inquiry on Implementation of Dynamic Line Ratings," Docket No. AD22-5-000, April 25, 2022, p. 7. https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220425-5306&optimized=false.