UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Managing Transmission Line Ratings	Docket No. AD19-15-000

POST-TECHNICAL CONFERENCE COMMENTS OF THE TRANSMISSION ACCESS POLICY STUDY GROUP

The Transmission Access Policy Study Group ("TAPS") appreciates the opportunity to submit comments regarding the Federal Energy Regulatory Commission's (the "Commission") September 10-11, 2019 technical conference on *Managing Transmission Line Ratings*, Docket No. AD19-15-000.[1] TAPS supports the development and implementation of new and advanced technologies that will increase access to more economic power supplies, provided that those technologies reduce cost to the ultimate ratepayer. We appreciate the Commission's interest in delving into the potential of these technologies, as shown by the wide ranging and in-depth questions posed in its Notice.

TAPS' comments focus on: (1) proposals by some panelists to use split-the-savings rate incentives to encourage the deployment of ambient-adjusted line ratings ("AARs") and/or dynamic line ratings ("DLRs"); (2) the need to ensure that new line rating technologies are deployed in a transparent and nondiscriminatory manner; (3) the need to consider mandatory application of more accurate line ratings, including the use of AARs in regional transmission organization and independent system operator ("RTO")

[1] Notice Inviting Post-Technical Conference Comments (Oct. 2, 2019), eLibrary No. 20191002-3022 ("Notice").

regions; (4) steps that can be taken to remove barriers to DLRs in RTO regions; (5) the need for serious consideration of mechanisms for improved line ratings, including use of new technologies, in non-RTO regions; and (6) the inappropriateness of using Reliability Standards and their enforcement as the means to mandate and audit application of new ratings technologies and criteria.

I. INTEREST OF TAPS

TAPS is an association of transmission-dependent utilities ("TDUs") in 35 states promoting open and non-discriminatory transmission access.[2] It has participated actively in numerous Commission proceedings concerning transmission access, planning, pricing, incentives policies, and the formation and operation of RTOs. Representing entities entirely or predominantly dependent on transmission facilities owned and controlled by others, TAPS has long recognized the need for a robust and efficiently utilized transmission infrastructure to provide non-discriminatory transmission access and foster competition. We therefore recognize the role of accurate line ratings in enabling TAPS members to meet their load reliably and affordably; and we appreciate the Commission's efforts to closely examine this important issue.

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[2] David Geschwind, Southern Minnesota Municipal Power Agency, chairs the TAPS Board. Jane Cirrincione, Northern California Power Agency, is TAPS Vice Chair. John Twitty is TAPS Executive Director.

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II. COMMENTS

A. The Commission Should Reject Proposals to Grant Transmission Owners Split-the-Savings Rate Incentives for New Line Ratings Technologies

In its August 26, 2019 Reply Comments in Docket No. PL19-3-000, *Inquiry Regarding the Commission's Electric Transmission Incentive Policy*,[3] TAPS strongly opposed initial comments in that proceeding that recommended the Commission grant "split-the-savings" rate incentives to transmission owners ("TOs") that deploy new line ratings technologies. Certain panelists repeated those recommendations at the September 10-11, 2019 *Managing Transmission Line Ratings* technical conference.[4]

The Commission should reject those proposals. As explained in TAPS' Incentives NOI Reply Comments, such incentives would perversely transform technological solutions claimed to be highly beneficial, low-risk, and low-cost, into expensive ones for consumers.[5] And they would funnel compensation to TOs potentially

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[3] Reply Comments of TAPS 23-30, Docket No. PL19-3-000 (Aug. 26, 2019), eLibrary No. 20190826-5116 ("TAPS Incentives NOI Reply Comments").

[4] *See, e.g.*, Tr. 25:12-18 (Gramlich, Working for Advanced Transmission Technologies Coalition), eLibrary No. 20191008-4001.

[5] TAPS Incentives NOI Reply Comments at 23-30.

many times greater than actual cost—an outcome fundamentally inconsistent with the requirement to tailor incentives that are "in fact needed, and [are] no more than is needed, for the purpose." [6] TAPS explained that the elements of "good utility practice" under the open access transmission tariff ("OATT") evolve as technology develops; and if the adoption of new line rating technologies is as beneficial and low-cost/low-risk as their proponents contend, it should be mandated without need of additional incentives.[7] TAPS also warned that if the benefit of these technologies is less assured, the Commission should be wary of using incentives to place its thumb on the scale, favoring them over competing technologies, transmission alternatives, and other non-transmission alternatives.[8]

In its Docket No. PL19-3-000 reply comments, Monitoring Analytics succinctly echoed TAPS' opposition to incentives for new line rating technologies:[9]

> The Market Monitor agrees with the comments that accurate transmission line ratings are essential. But the Market Monitor disagrees that increased payments to transmission owners as incentives to correctly state line ratings are an appropriate response.

At the *Managing Transmission Line Ratings* technical conference, both Monitoring Analytics and Potomac Economics agreed that TOs should be required to

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[6] *City of Detroit v. FPC*, 230 F.2d 810, 817 (D.C. Cir. 1955) (as quoted in TAPS Incentives NOI Reply Comments at 23). *Accord Farmers Union Cent. Exch., Inc. v. FERC*, 734 F.2d 1486, 1503 (D.C. Cir. 1984). *See also Promoting Transmission Investment Through Pricing Reform*, Order No. 679-A, 117 FERC ¶ 61,345, PP 25, 27 (incentives are awarded only where they "materially affect" decisions and are "tailored to address the demonstrable risks and challenges") (2006), *clarified*, 119 FERC ¶ 61,062 (2007).

[7] TAPS Incentives NOI Reply Comments at 27.

[8] *Id.*

[9] Reply Comments of the Independent Market Monitor for PJM 4, Docket No. PL19-3-000 (Aug. 26, 2019), eLibrary No. 20190826-5012.

implement AARs, rather than granted rate incentives for doing so.[10] *See also* Tr. 143:9-13 (Casablanca, American Electric Power Company, Inc.) (recommending "that the FERC issue an order with an appropriate timetable, requiring Transmission Owners and Operators in all regions to implement Ambient Adjusted Ratings on most, if not all, of their Transmission facilities …"). As discussed below, TAPS agrees that the Commission should consider moving in that direction, with appropriate safeguards. Regardless of whether it mandates AARs, however, the Commission should *not* grant incentive rates for deployment of that technology.

With respect to DLR technology, certain panelists—including those who argued in favor of incentive rates for AARs—urged the use of incentives to encourage DLR adoption.[11] Others, however, raised substantial questions regarding, among other things: the magnitude of any incremental benefit of DLRs over AARs; the costs, security risks, and complexity of incorporating DLRs into dispatch and grid operations; and whether and to what extent it would be appropriate to deploy DLR technology at this time.[12] TAPS is supportive of Commission efforts to remove barriers to DLR deployment, provided the costs of doing so are justified by the benefits to consumers, and adequate safeguards are put in place to prevent DLR technology from being installed and operated

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[10] Tr. 308:2-8 (Bowring, Monitoring Analytics), eLibrary No. 20191008-4002; Tr. 308:19-21 (Chiasson, Potomac Economics); Statement of Wander (Potomac Economics) at 2, eLibrary No. 20190917-4022.

[11] Tr. 308:19-21 (Chiasson).

[12] Tr. 214:15–216:14 (Bourg, Entergy Services, LLC); Tr. 111:4-18 (Xu, New York Power Authority); Tr. 108:4-25 (Murphy, PJM Interconnection, L.L.C.); Tr. 109:10–110:2 (Enayati, National Grid USA Service Company, Inc.); Tr. 163:5-11 (Shah, PacifiCorp); Tr. 77:12–78:6 (Velez, Dominion Energy, Inc.); Statement of Hartman (Electricity Consumers Resource Council) at 2 n.3, eLibrary No. 20190917-4035; Statement of Velez at 4, eLibrary No. 20190917-4011.

in a discriminatory manner. But incentive rates to promote TO use of DLR technology are inappropriate and should not be granted.

B. The Commission Should Require that New Line Ratings Technologies Be Deployed in a Transparent and Nondiscriminatory Manner

As explained in TAPS' Incentives NOI Reply Comments (at 29), the Commission has previously recognized the potential for market manipulation from allowing TOs to set facility ratings.[13] Potomac Economics' comments in the Incentives NOI proceeding expressly recognized TOs' incentive to use facility ratings to discriminate:[14]

> To the extent that the transmission owner owns generation or serves load in a load pocket served by its transmission facilities, the transmission owner may have an incentive to provide *higher* or *lower* ratings depending on how prices in the load pocket affect its net revenues and costs.

Comments at the *Managing Transmission Line Ratings* technical conference confirmed that TOs have the incentive and opportunity to use facility ratings to make capacity available on an unjust, unreasonable, and discriminatory basis.[15] New line rating technologies—while beneficially expanding transmission availability—could increase that opportunity for discrimination by widening the range of potential ratings for a facility, and by giving TOs greater control and discretion to enhance the competitive advantage of their own generation and disadvantage the generation of others.

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[13] *Regional Transmission Organizations*, 64 Fed. Reg. 31,390, 31,420-21 (1999) ("Order 2000 NOPR").

[14] Comments of Potomac Economics 7, Docket No. PL19-3-000 (June 25, 2019), eLibrary No. 20190625-5179 (emphasis in original).

[15] *See, e.g.*, Tr. 67:20–68:16 (Gramlich) (Allowing line rating methodology to be a black box "violates twenty-five plus years of FERC tradition of trying to determine what the available transmission capacity is and make it available to the market and that was done for…just and reasonable rate reasons, but also discrimination reasons."); Tr. 312:14-20 (Chiasson) (if ratings "are unjustifiably overly conservative that pushes them into the physical withholding question from us as market monitors"); Statement of Hartman at 5, eLibrary No. 20190917-4035 ("encouraging TOs to actively alter their line ratings without correcting oversight deficiencies may incent new forms of market manipulation.").

Allowing TOs to establish line ratings in a manner that enables them to use their control over transmission to benefit their generation function—for example, by selectively implementing new technologies only on facilities that benefit the TO's generation, or by adopting ratings for certain lines that understate actual transfer capability—would fundamentally undermine nondiscriminatory open access.[16]

To fulfill its obligation to prevent undue discrimination, the Commission must consider steps to ensure that line ratings are accurate and that new technologies are implemented in a nondiscriminatory manner. In RTO regions, this should include consideration of migrating all or part of the facility rating function from TOs to the RTO. While full migration was not discussed at the technical conference, the Commission actually proposed that change in the Order 2000 NOPR.[17] The Commission chose not to include it in the final rule, but Order 2000 "encourage[d] . . . such ratings to be determined, to the extent practical, by mutual consent of the transmission owner and the RTO, taking into account local codes, age and past usage of the facilities."[18] Order 2000 also stated that the Commission "expect[s] this responsibility to migrate to the RTO, as facility ratings have at least an indirect effect on the ability of the RTO to perform other

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[16] *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 75 FERC ¶ 61,080, FERC Stats. & Regs. at 31,682 ("The inherent characteristics of monopolists make it inevitable that they will act in their own self-interest to the detriment of others by refusing transmission and/or providing inferior transmission to competitors in the bulk power markets to favor their own generation, and it is our duty to eradicate unduly discriminatory practices."), *clarified*, 76 FERC ¶ 61,009 (1996), *modified*, Order No. 888-A, 78 FERC ¶ 61,220, *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in part and remanded in part sub nom. Transmission Access Policy Study Grp. v. FERC*, 225 F.3d 667 (D.C. Cir. 2000*), aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

[17] Order 2000 NOPR, 64 Fed. Reg. 31,390, 31,420-21.

[18] *Regional Transmission Organizations*, Order No. 2000, 89 FERC ¶ 61,285, FERC Stats. & Regs. at 31,105 (1999) ("Order 2000"), *order on reh'g*, Order No. 2000-A, 90 FERC ¶ 61,201 (2000), *appeal dismissed for want of standing sub nom. Pub. Util. Dist. No. 1 v. FERC*, 272 F.3d 607 (D.C. Cir. 2001).

RTO minimum functions (e.g., planning and expansion, ATC and TTC)."[19] As discussed in TAPS' Incentives NOI Reply Comments (at 29) and in more detail below, the time is ripe for the Commission to revisit the issue and consider full or partial migration of the facility rating function to RTOs to address the discrimination concerns it correctly recognized in Order 2000.

The Commission should also consider other mechanisms to better ensure that facility ratings are accurate, and that new line rating technologies are deployed in a transparent and nondiscriminatory manner. Monitoring Analytics recommended that TO discretion in setting line ratings should be "minimized or eliminated."[20] Many panelists urged greater transparency in facility rating-setting methodology.[21] Given their importance to determining the availability of the open access transmission service that is the underpinning of competitive markets, TAPS agrees that greater transparency of line ratings is essential, and suggests that the Commission examine mechanisms to allow this to be accomplished in a manner that is consistent with protecting Critical Energy Infrastructure Information from public disclosure.[22]

More generally, in considering whether and what actions should be taken to address new line rating technologies, the Commission must ensure that there are

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[19] Order 2000, FERC Stats. & Regs. at 31,105-06.

[20] Statement of Bowring at 3, eLibrary No. 20190917-4037.

[21] Statement of Chiasson at 2, eLibrary No. 20190917-4038; Tr. 217:7-14 (Wander); Tr. 25:19–26:5 (Gramlich); Tr. 308:22–309:9 (Chiasson); Statement of Rousselle (Alternative Transmission, Inc.) at 2, eLibrary No. 20190917-4025.

[22] For example, it may be worth exploring the potential for enhancing the data available through the OASIS, and whether business practices developed through the North American Energy Standards Board may facilitate such enhancement.

protections sufficient to fulfill its overriding obligation to prevent discrimination. *See also* discussion in Parts II.C and D below.

C. AARs and DLRs in RTO Regions

TAPS encourages the Commission to take a hard look at requiring the use of more accurate line ratings as part of the good utility practice required by open access transmission tariffs. At the technical conference, RTO market monitors noted that it is not uncommon for TOs to submit the same line rating as both the summer and winter rating.[23] At minimum, lines should have distinct summer and winter ratings, unless it is demonstrated that is unreasonable for specific facilities given conditions in the area.

In addition, where application of AARs would reduce congestion in a meaningful way, it should be required, subject to avoiding undue risk to transmission facilities. Testimony at the technical conference made clear that strategic deployment of AAR technology can provide a low-cost means, relying on commercial forecasts, to produce significant benefits to consumers.[24]

To the extent that they have not already done so, RTOs should be required to adapt their systems so that they can integrate AARs into their operations. AARs may be most appropriately used for real-time RTO markets, where ratings based on near-real-time temperature information can help reduce constraints experienced in real-time dispatch.[25]

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[23] Tr. 311:24-25 (Chiasson).

[24] Tr. 292:20-23 (Bourg); Tr. 286:14-18 (Hartman) (the Independent Market Monitor for the Midcontinent Independent System Operator, Inc. "found AARs would have reduced congestion costs by over $100 million annually in recent years.").

[25] *See, e.g.*, Statement of Bowring at 3, eLibrary No. 20190917-4037 ("Line ratings should be updated in real time to reflect real time conditions and to help ensure that real time prices are based on actual current line ratings."); Tr. 140:13-15 (Casablanca) ("The application of Ambient Adjusted Ratings in real-time

Further, if the authority to establish line ratings is not transferred to the RTO as Order 2000 had envisioned, the RTO should at minimum have a backstop responsibility to identify facilities for which application of AARs would be beneficial. TAPS recognizes that it may not be efficient and cost-effective to implement AARs for all lines. But if AARs are only implemented selectively by TOs, there is a substantial risk that the technology will be deployed in a discriminatory manner. To defend against such an outcome, RTOs should be directed to: (1) independently evaluate where on the grid AARs would be most beneficial—perhaps as part of the RTO's existing regional transmission planning process;[26] and (2) engage in a transparent process with relevant TOs, in which TOs would be required either to implement AARs at the RTO-identified locations, or to explain why it is unreasonable to do so. Even without constraining the individual TO's discretion to also implement AARs on lines that it chooses itself, this RTO role should limit the opportunity for a TO to apply AARs selectively for its own competitive advantage.

In contrast, based on the technical conference, it appears that DLRs should *not* be required as a part of good utility practice at this point, given the additional complexity, security risks, and costs, relative to the potential incremental gains from DLRs versus

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operational environments is something that AEP has been doing for over ten years."); Statement of Enayati at 3, eLibrary No. 20190917-4013 ("In NY, National Grid's NY electric transmission operations may consider real-time temperature-based ratings for reliable grid operation of the transmission system, but this is not considered in the day ahead capacity forecast by NYISO.").

[26] Comments from RTOs at the *Managing Transmission Line Ratings* technical conference suggested that it might be relatively simple to adapt and use existing RTO processes and information to serve this additional function. *See, e.g.*, Tr. 269:5-25 (Markham, New York Independent System Operator, Inc.) (NYISO's economic planning process looks into system constraints and has worked with TOs on ways to mitigate those constraints); Tr. 269:25–270:15 (Smith, Midcontinent Independent System Operator, Inc.) ("We have the understanding of what's going on in the systems…[W]e can help direct [our members] in the right areas where maybe the most efficiency can be gained from a market congestion perspective, or maybe where the most reliability concerns exist on the system.").

AARs. TAPS, however, encourages the Commission to reduce RTO barriers to adoption of DLR technology, so long as cost of doing so is justified by consumer benefits, and safeguards and transparency are put in place to prevent misuse of DLRs for competitive advantage. As with AARs, for example, RTOs should be required to adapt their systems so that they can integrate DLRs should they be provided by a TO in the RTO's footprint. And to avoid discriminatory implementation of DLRs, in zones where the TO has started to implement DLRs for some of its facilities the RTO should be required to evaluate whether other facilities might benefit from DLRs, and engage in a transparent manner with TOs with respect to deploying DLRs in those RTO-identified locations.

D. AARs and DLRs in Non-RTO Regions

For the reasons discussed above, accurate line ratings and non-discriminatory application of AAR and DLR technologies are important to achieving open access and supporting competitive wholesale markets in non-RTO regions, consistent with the OATT's good utility practice requirements. Transparent and non-discriminatory application of AARs and DLRs in non-RTO regions therefore requires serious examination, although the absence of an independent entity to facilitate implementation creates challenges. TAPS looks forward to engaging on this important issue and working with the Commission to develop solutions.

E. Reliability Standards and Their Enforcement Should Not Be the Means to Mandate and Audit Application of New Ratings Technologies and Economic Criteria

As discussed above, TAPS supports the Commission's efforts to prompt TOs to use AAR technology for transmission line ratings where that would make sense in terms of congestion cost savings produced. However, the Commission should recognize that

this effort is part of its *economic* regulation—ensuring non-discriminatory open access transmission service pursuant to Federal Power Act ("FPA") Sections 205 and 206. It should not use the *reliability* authority granted to the Commission and the Electric Reliability Organization—the North American Electric Reliability Corporation ("NERC")—pursuant to FPA Section 215 as a tool to achieve this purpose.

There is no need to change NERC Reliability Standards to accommodate deployment of AAR or DLR technologies. Specifically, FAC-008-3 is the primary NERC Reliability Standard governing transmission line ratings.[27] As described by Howard Gugel, NERC's Vice President and Director of Engineering and Standards, FAC-008-3 requires TOs, as well as generation owners, to have a documented methodology, consistent with specified criteria, and to document the underlying assumptions, design criteria, and methods used to determine the facility ratings, including identification of how ambient conditions were considered. As he further explained, FAC-008-3 "does require the consideration of ambient conditions" and "does not prohibit an entity from establishing dynamic ratings on any of its facilities, provided that the documented methodology explains how the ratings are established."[28]

Nor should any "non-reliability criteria (e.g., economic)"[29] be established and applied through Reliability Standards or the associated FPA Section 215 enforcement mechanism. Audits conducted by NERC and its Regional Entities should continue to focus on whether the TO (or generation owner) satisfies FAC-008-3 without infusing

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[27] In addition, PRC-023 places further limitations on line ratings. *See* Statement of Gugel (NERC) at 2, eLibrary No. 20190917-4015.

[28] *Id*.

[29] Notice, Question 5.e.

these processes with new economic criteria. Such audits appropriately focus on compliance with Reliability Standards that are established for the singular purpose of maintaining reliable operation of the bulk-power system so that instability, uncontrolled separation, and cascading failures do not result from a sudden disturbance.[30]

TAPS also urges the Commission not to alter the information retention required for NERC compliance purposes for economic regulatory purposes.[31] Revision of NERC record retention requirements is currently under consideration in Phase II of NERC's Standards Efficiency Review process.[32] To the extent that process results in proposed changes to Reliability Standards, the Commission will have the opportunity to review those changes, but the Commission should not impose added NERC records retention requirements at this time. We also question whether NERC Regional Entities should be enlisted to create a most-limiting-elements database for economic regulatory purposes.[33]

Thus, as discussed above, TAPS urges the Commission to take steps to move toward requiring and enforcing more transparent and accurate ratings that deploy AAR technology where it would provide meaningful consumer benefits, consistent with the Commission's obligation to ensure non-discriminatory open access pursuant to FPA Section 206. But that important effort should be kept separate from the establishment and enforcement of Reliability Standards pursuant to FPA Section 215.

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[30] *See* FPA § 215(a)(3), (4) (defining Reliability Standard and reliable operation).

[31] Notice, Question 5.d.

[32] *See* NERC, *Standards Efficiency Review*, https://www.nerc.com/pa/Stand/Pages/Standards-Efficiency-Review.aspx (last visited Oct. 22, 2019).

[33] Notice, Question 4.b.

CONCLUSION

The Commission should take into account TAPS comments in considering whether and what Commission action might be appropriate in the area of transmission line ratings, especially ambient-adjusted ratings and dynamic line ratings.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated on this 1st day of November, 2019.

/s/ Amanda C. Drennen
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