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BILL NO.:	HB 829 – Public Utilities - Transmission Lines - Advanced Transmission Technologies
COMMITTEE:	Education, Energy, and the Environment
HEARING DATE:	March 26, 2025
SPONSOR:	Delegate Charkoudian
POSITION:	Favorable

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The Office of People's Counsel (OPC) respectfully offers the following supportive comments on HB 829 – Public Utilities - Transmission Lines - Advanced Transmission Technologies. As amended, HB 829 will require that a transmission owner report any alternatives analyzed when applying for a certificate of public convenience and necessity (CPCN), which is primarily required upon construction of a new transmission line. This report will include, among other things, a description of any advanced transmission technologies (ATTs) that were considered as part of the transmission line build. The bill also requires transmission owners to submit a report to the Public Service Commission (PSC) every four years on transmission congestion costs and whether ATTs could decrease these costs for ratepayers.

ATTs encompass a host of technologies including:

- high performance conductors, which allow for increased line capacity, higher transmission efficiency, and reduced thermal sag;
- storage as a transmission asset, which substitutes batteries for new transmission lines and can enable faster and cheaper transmission system upgrades than traditional transmission lines; and
- grid enhancing technologies (GETs), which squeeze more performance out of existing transmission assets using advanced power flow controls, dynamic line ratings, and topology optimization.

ATTs can increase the useful life of existing transmission assets, decrease congestion costs, allow new generation to interconnect more quickly and more cheaply, defer expensive transmission upgrades, and enable transmission system expansion with less disturbance of previously unused land.

ATTs can enable more rapid deployment of transmission capacity upgrades that are required for new generation to interconnect to the grid. Some projects drop out of the PJM interconnection queue because once they are studied, they are required to pay for significant transmission system upgrades that will take years to construct. By enabling cheaper and more rapid transmission system upgrades, ATTs support generation interconnection at lower cost and more quickly. One recent study found that use of GETs in five PJM states could allow an additional 6 gigawatts of new capacity to come online within the next three years.[1]

ATTs can also decrease land use concerns. Storage as a transmission asset can "pre-flow" energy over existing lines so that the line can functionally deliver more energy than the maximum line rating at times of peak demand. While current PJM rules do not allow storage to act as a transmission asset, such a framework has been approved by the Federal Energy Regulatory Commission (FERC) in other regions and the policy has been studied by PJM.[2] Similarly, advanced conductors unlock the possibility that lines with higher ratings can use existing transmission line routes and towers, or allow new transmission builds to have smaller footprints, thus limiting the need to build on new land.

As amended, HB 829 requires that alternatives analyses, including consideration of alternatives enabled by ATTs, be reported to the PSC if such analyses were actually conducted by the applicant or otherwise required by local, state, or federal transmission planning processes. In contrast, the original version of the bill would have required an alternatives analysis, including how ATTs could be utilized, even in the case that such an analysis had not already been conducted. As a result of this change, consideration of ATTs which are not explicitly required under any local, state, or federal planning process—including use of batteries as a transmission asset and topology optimization—would no longer be required.

Other changes in the amendment include:

- clarifying that ATTs include technologies that enhance *all* transmission facilities, not just the line itself;

[1] Katie Mulvaney et. al., *GETting Interconnected in PJM* (2024) *available at* https://rmi.org/wp-content/uploads/dlm_uploads/2024/02/GETs_insight_brief_v3.pdf.
[2] *See* Storage as a transmission asset issue charge, https://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue=%7BB435C39B-D4BB-4C3C-ADA9-8EFBC0E52246%7D.

- adding additional flexibility to the periodic review of how ATTs can enhance existing transmission facilities; and
- allowing the PSC to provide financial incentives to utilities for the application of ATTs.

ATTs can provide significant savings for transmission costs. For example, evaluations of ATTs deployed in the Southwest Power Pool—another regional transmission organization that stretches from North Dakota to Oklahoma—found that GETs increased the utilization level of certain high voltage transmission lines by 16 percent.[3] As amended, however, the bill only requires reporting on any ATT solutions a utility, in fact, has studied; it does not require a study of any additional ATT solutions that the utility has not considered. The bill's added value is informational, by providing a reporting mechanism that could give additional insights to the PSC in its CPCN hearings rather than necessarily spurring adoption of ATTs that had not been considered.

This bill takes an important step toward maximizing the utility of existing transmission infrastructure in Maryland and is likely to prevent unnecessary investments in new infrastructure that could prove costly to ratepayers.

Recommendation: OPC requests a favorable committee report on HB 829.

[3] Brattle Group, *Building a Better Grid*, at 5 (2003) *available* at https://www.brattle.com/wp-content/uploads/2023/04/Building-a-Better-Grid-How-Grid-Enhancing-Technologies-Complement-Transmission-Buildouts.pdf.