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BILL NO.:	HB 829 – Public Utilities - Transmission Lines - Advanced Transmission Technologies
COMMITTEE:	Economic Matters
HEARING DATE:	February 20, 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. HB 829 will require that a transmission owner provide an alternatives analysis when applying for a certificate of public convenience and necessity (CPCN), which is primarily required upon construction of a new transmission line. This analysis will consider, among other things, an analysis of the impact of utilizing advanced transmission technologies (ATTs) as part of the transmission line build. The bill also requires transmission owners to submit a report to the Public Service Commission (PSC) every two 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.

The potential cost savings of the bill are difficult to estimate, given that the efficacy of ATTs varies based on the specific needs of a transmission line. Still, 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]

It is also worth noting that there are limits to how much the bill—or any legislation—can require ATT deployment. For transmission lines regulated by FERC, the PSC would likely be preempted from requiring the installation of ATTs unless the use of ATTs directly impacts siting concerns. Likewise, for lines with FERC-regulated transmission charges, the PSC is likely preempted from allowing cost recovery for ATTs.

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[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.

[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.

Even considering these limitations however, this bill takes an important step towards 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.