Responses to Questions for the Record

House Energy & Commerce Subcommittee on Energy Hearing
"Wires, Rates, and States: Permitting Transmission for Reliable and Affordable Power"

The Honorable Marinette Miller-Meeks (R-IA)

You describe Grid United's model as succeeding because the benefits of your projects are clear enough that you can voluntarily assemble utility partners without a federal mandate. What makes those benefits clear enough to reach voluntary agreement?

Utilities across the country are facing a common challenge: electricity demand is growing, reserve margins are tightening, and extreme weather events are placing additional stress on the grid. Increasingly, utilities, state commissions and grid operators recognize the important role interregional transmission plays in addressing that challenge by enabling neighboring regions to more efficiently share resources when they are needed most.

In order to realize that value, market structures must evolve to formally recognize the benefits interregional transmission provides. Recent FERC orders on interregional coordination have encouraged RTOs and other market operators to begin developing frameworks for interregional HVDC projects like those that Grid United is developing. While progress is being made, additional clarity is needed on how market operators will formally recognize those benefits and assign the value those projects create to project participants.

Interregional connections provide capacity value by connecting diverse regions with different load profiles, generation patterns, and resource adequacy risk profiles, whether the connection is AC or HVDC. Any interregional connection can provide capacity value to the extent that the two connected regions are diverse in their resource adequacy risk, and the fewer existing connections between the regions, the higher the marginal capacity benefit of incremental connection.

While both types of transmission – AC and HVDC – can provide resource adequacy benefits, HVDC has some advantages. Because it is controllable, there is no risk of loop flows, and it can be cleanly metered. In addition, HVDC can provide various grid stability benefits (voltage control, inertial support, power oscillation damping, frequency control, steady state and dynamic reactive power control, black start, and run-back/run-up schemes), strengthening overall system reliability.

The recent NARUC resolution supporting the use of interregional HVDC transmission to address resource adequacy, reliability, and electricity affordability reinforces this point. It encourages states, RTOs and ISOs, transmission providers, utilities, and federal policymakers to evaluate opportunities to incorporate interregional HVDC transmission into resource planning and resource adequacy strategies, helping create a common policy foundation for the market and planning frameworks that will allow utilities to evaluate these benefits more consistently.

a. Where that clarity does not exist, is the problem that the benefits are genuinely smaller, or that the parties lack a common framework for measuring them?

The latter: building on the previous answer, formal frameworks to measure and assign the resource adequacy value of interregional transmission are necessary to unlock investment in much-needed interregional transmission infrastructure. Those frameworks will position utilities, regulators, and market operators to appropriately evaluate all potential solutions as they work to affordably address urgent capacity constraints.

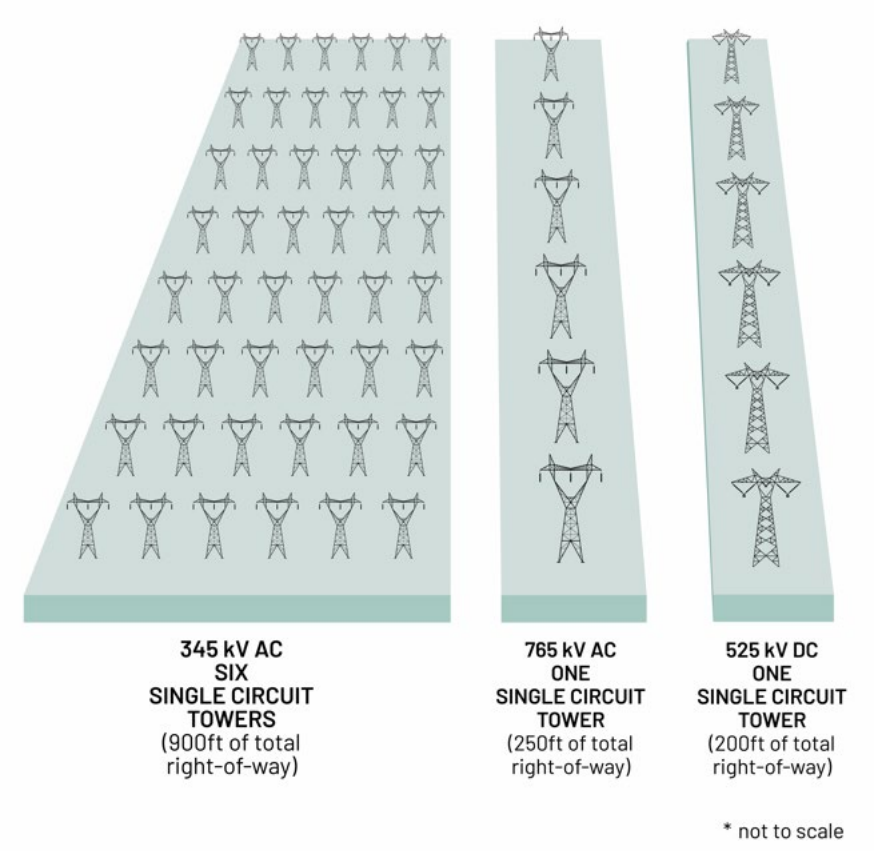
The Honorable Michael Rulli (R-OH)

When done right, data center development can strengthen the electric grid, but it is essential that households and small businesses are protected from increased power bills as the U.S. expands electric infrastructure to meet rising demand. In Ohio, AEP has demonstrated leadership in this model, developing a large load tariff alongside SoftBank to construct an over $4 billion 765kV transmission line for their new Piketon data center campus. With this partnership, all costs are being covered by the developer rather than being passed on to Ohio's families and businesses. You discuss in your testimony the advantages of 765-kV lines. Can you please expound on why these lines are uniquely suited to ensure reliability and support rising energy demand?

Both 765-kV AC and HVDC transmission are well-suited to ensure reliability and support rising electricity demand because they can move large amounts of power efficiently over long distances. Both technologies reduce land use impacts by maximizing the amount of energy that can be delivered via a transmission corridor while minimizing electrical losses in transit. 765-kV transmission can act as the backbone of regional transmission networks by increasing transfer capability, reducing congestion, and improving access to generation resources across a broad geographic area.

HVDC transmission provides many of those same benefits, while offering several additional advantages. Because power flows on an HVDC line are fully controllable, operators can direct energy precisely where it is needed during periods of system stress. HVDC can also connect asynchronous systems, allowing neighboring regions and interconnections to share resources, improve reliability, enhance resiliency during extreme events, and make more efficient use of existing generation resources.

As electricity demand continues to grow, 765-kV AC and HVDC transmission are complementary tools. 765-kV strengthens regional transmission networks, while HVDC expands the ability to share resources across regions. Together, they can improve reliability, reduce costs, and support long-term economic growth.



The above diagram shows the difference in right-of-way footprint between HVAC and HVDC lines. DC technology uses significantly less right-of-way to move