**REGIONAL TRANSMISSION INITIATIVE – NOTICE OF REQUEST FOR INFORMATION AND SCOPING MEETING**

**COMMENTS OF**
**VERMONT ELECTRIC POWER COMPANY, INC. AND**
**VERMONT TRANSCO LLC ("VELCO")**

VELCO provides the following comments in response to the Regional Transmission Initiative's Request for Information ("RFI").

## I. Introduction

In 1956, Vermont's distribution utilities created VELCO, the country's first statewide, transmission-only company. VELCO remains one of a few transmission-only utilities in our country. We are owned by the state's 17 investor-owned, municipal, and cooperative distribution utilities and a public benefits corporation. We are a Vermont corporation with a unique pass-through financial structure in that our earnings pass through to the Vermont distribution utilities to offset retail customers' electric bills. We are therefore motivated to keep our employees and host communities safe, the lights on, transmission costs low, and sustainable public policy advanced.

We are also a relatively small transmission utility of 160 employees with a small planning staff that is responsible for a system as complicated and as highly regulated as that of any large transmission owner. Since 2004, VELCO has successfully invested over a billion dollars into our system while maintaining a flat budget (in real dollars) and controlled-head count for the past decade. We own and operate 738 miles of transmission lines on 13,000 acres of right-of-way and through 55 stations, using our 1,600-mile, statewide fiber optic communications network to monitor and control the system and our statewide utility radio system for maintenance and emergency services utilized by all Vermont electric utilities. VELCO sits at the intersection of three separate control areas (ISO-NE, NY-ISO, and Canada). Our grid provides high-voltage power to Vermont and other New England states through connections to Hydro-Quebec and other generators, including many renewable generators. VELCO operates one of the most reliable grids in the country, and one with a very high and increasing percentage of renewable energy resources.

VELCO appreciates this opportunity to provide comments on the RFI. Although Vermont does not have a coastal shoreline and thus does not have a potential direct point of interconnection for off-shore wind, VELCO has an interest in the development of renewable resources across our region. Further, to the extent that any development of new on-shore renewables or off-shore wind benefits Vermont customers, we anticipate ultimately bearing a proportionate share of the cost of the new transmission needed to bring that power to Vermont consumers.

## II. Comments

1. Comment on how individual states, Participating States, or the region can best position themselves to access U.S. DOE funding or other DOE project participation options relating to transmission, including but not limited to funding, financing, technical support, and other opportunities available through the federal Infrastructure and Investment Jobs Act.

   To the maximum extent practicable, VELCO believes New England should present a common, united front regarding our energy future goals and collaborative transmission solutions. VELCO also believes that continuing engagement with U.S. DOE and regional planning sessions should reveal eligible regional projects of highest impact - where available federal money and support can best help the region cost effectively advance power supply decarbonization at scale and, where possible, enable greater integration of renewable resources. In particular, projects that alleviate the ongoing potential winter fuel shortage should be prioritized.[1]

2. Comment on ways to minimize adverse impacts to ratepayers including, but not limited to, risk sharing, ownership and/or contracting structures including cost caps, modular designs, cost sharing, etc.

   VELCO believes that ISO-NE's cost containment processes may be of beneficial use when selecting and building new transmission needed to bring renewable power to where the loads are located. We also believe that potential projects should be considered from a longer-term view of highest value and not just solely lowest cost, noting that cost containment measures are particularly appropriate within this viewpoint. This belief is consistent with the manner in which VELCO has built out the grid in Vermont over the last two decades following Vermont's long-term planning process and requirement to give full, fair and timely review of non-transmission alternatives. We believe an emphasis on longer-term investments that yield even longer-term gains (or savings) is a better approach than a piecemeal, lowest-cost buildout of transmission given the scale needed to integrate New England's renewable power resources. A longer-term view on value also means longer-term, comprehensive, regional planning must occur in order to avoid a patchwork of projects that fail to envision the full scope of renewables, both on and off-shore, that are needed to secure New England's clean energy future.

3. Identify the advantages and disadvantages of utilizing different types of transmission lines, like alternating current (AC) and direct current (DC) options for transmission lines and transmission solutions. Should 1200MW/525kV HVDC lines be a preferred standard in any potential procurement involving offshore transmission lines?

[1] VELCO's system offers a number of ties and upgrades that advance these regional objectives concerning renewable power. For example, our Franklin County Line Upgrade Project (K42) represents an evolution of reliability-driven upgrades to better incorporate public policy goals.

VELCO is experienced with both AC and DC transmission lines, given our ownership and operation of the Phase I/II HVDC grid that runs from Canada, through Vermont, to Massachusetts. We appreciate that most of the region's grid consists of AC assets, and further leveraging those AC power transmission resources would provide high value to customers. However, HVDC is more economical for long distances and underwater applications. We expect a mix of AC and HVDC transmission will be needed to bring onshore renewables and offshore wind power to consumers. We also note that while 1200 MW should be the minimum capacity for lines connecting individual off-shore plants to land, the size of HVDC lines connecting two or more plants to each other could be designed to a larger capacity depending on the HVDC network's needs

4. Comment on whether certain projects should be prioritized and why. For example, should a HVDC offshore project that eliminates the need for major land-based upgrades be prioritized over another HVDC offshore project that does not eliminate such upgrades;

   Projects should be assessed and prioritized based on an alternatives analysis that identifies the best technical solution at the most economical cost, keeping in mind that a forward-looking comprehensive grid plan is needed. There are numerous studies and resources on large scale buildouts of on and offshore resources and many successful international examples of such buildouts that are relevant to New England and which should be consulted. We also note that VELCO's system has points of interconnection with both Hydro Quebec and New York, which offer balancing resources for the entire region. These balancing resources and existing POIs should be considered in any comprehensive regional analysis of new onshore renewables and offshore wind.

5. Identify any regional or interregional benefits or challenges presented by the possibility of using HVDC lines to assist in transmission system restoration following a load shedding or other emergency event and particularly from using the black start capabilities of HVDC lines in the event of a blackout;

   In our experience, variable generation resources present challenges in terms of black start capabilities or recovering from a load shedding event, due to uncertainty of output. We believe that black start capability is not a significant attribute of wind power systems. However, to the extent variable generation resources can be designed to support voltage and/or frequency, they can be part of restoration efforts.

6. Identify the benefits and/or challenges presented by using land based HVDC lines or other infrastructure to increase the integration of renewable energy (other than offshore wind) in New England to balance injections of offshore wind;

   Land-based HVDC lines typically are for the transport of power over longer distances. Using HVDC can mean that nearby load will not be able to be served by local generation. In our view, this is an important and instructive fact behind opposition to recent interstate transmission projects, i.e., lack of a tangible local value proposition. However, HVDC injections provide for greater control of power flows and dynamic voltage control, and

accordingly are efficient. The transmission needed for specific onshore renewable resources will need to be considered as part of the planning process, taking into account the location of the load and any already-present transmission. Perhaps most importantly, however, is acting now on bidirectional, land-based transmission complementary to and in parallel with offshore wind transmission development. Several reputable studies have, as has HydroQuebec, identified the multiple mutual benefits of building the transmission necessary to enable both offshore wind deliveries north at times of over production and HydroQuebec deliveries south at times of New England need. Such an approach complements continued in-state generation development within the respective New England states.

7. Comment on the region's ability to use offshore HVDC transmission lines to facilitate interregional transmission in the future;

   There are different approaches to building an offshore transmission network, including backbone and meshed approaches, which can have an impact on the possibility for interregional transmission. Underground and underwater HVDC cables will likely be easier to site than comparable overhead lines. We believe that HVDC cabling, whether regional or interregional, likely is a longer-term "no regrets" approach to bringing offshore wind power on shore. We believe any grid design to connect offshore HVDC, even in early stages, should consider the future buildout plans of the region and be built to accommodate them, which at a minimum points to the use of a meshed network.

8. Comment on any just-transition, environmental justice, equity, and workforce development considerations or opportunities presented by the transmission system buildout and how these policy priorities are centered in decisions to develop future infrastructure;

   These issues should be fully considered as part of planning and siting, taking into account transparency and stakeholder processes. Costs and benefits associated with ensuring fairness and justice in siting should be shared proportionately to their impact/location. Leveraging the existing A/C system would seem to be the best way to minimize impacts overall but careful attention will be needed to redress or mitigate existing inequities, most of which should be off-settable through appropriate allocation of benefits and costs. Some significant study of this issue and creative, intentional, and sustained outreach to marginalized groups will be necessary.

9. Comment on how to develop transmission solutions that maximize the reliability and economic benefits of regional clean energy resources.

   This is a key question at the heart of regional transmission needed to bring on line clean energy resources in New England. We believe a comprehensive, long-term portfolio approach is best. Such an approach should reflect both individual state policies, as well as the generation and transmission resources each are willing to contribute. A portfolio approach also means that projects will vary in scope and size, requiring a focus on more than just advancing the largest proposals. Regardless of the specific location within New

England and whatever the size of the project, delivery of quantified value for agreed-upon benefits, along with consistency with an overarching, consensus-based master plan, should be required to better assure high investment value and long-lasting impacts.

10. Identify potential Points of Interconnection (POIs) in the ISO-NE control area for renewable energy resources, including offshore wind. What are the benefits and weaknesses associated with each identified POI? To the extent your comments rely on any published ISO-NE study, please cite accordingly;

    As VELCO does not have any POIs on the coastal shoreline, we do not have specific comments to offer in response to this item. We have a number of interregional POIs that connect to hydropower in Quebec and hydro and wind power in New York, which may require upgrading to allow for balancing of significant offshore wind power.

11. Similarly, comment on whether there are benefits to integrating offshore wind deeper into the region's transmission system rather than simply interconnecting at the nearest landfall (*e.g.,* using rivers to run HVDC lines further into the interior of New England). If there are enough benefits to make this approach feasible, please comment on any obstacles, barriers, or issues that Participating States should be aware of regarding such an approach;

    The location of the load closer to the coastal shoreline seems to mitigate the need for many deeper off-shore wind POIs. Deeper POIs could be appropriate for on-shore renewable resources and balancing power inter-regionally with Quebec and New York. Diversifying POIs to multiple locations could allow for greater flexibility in minimizing the amount of needed land-based transmission.

12. Identify likely offshore corridor options for transmission lines. Please comment on the potential for such corridor options, include size of the corridor footprint and potential number of cables that can be accommodated, to minimize the number of lines and associated siting and environmental disturbance needed to integrate offshore wind resource. For any offshore corridor identified, please indicate how the corridor avoids or minimizes disturbances to marine resources identified in the applicable plan, including the Connecticut Blue Plan and the Massachusetts Ocean Management Plan;

    VELCO has no specific comments to offer in connection with this item, other than to point out that applicable marine resource plans and requirements should be adhered to.

13. Identify strategies to optimize for future interconnection between offshore converters, either AC or DC, to permit power flow between converters to facilitate the transmission of power from offshore to multiple POIs as needed. Similarly, comment on the ability of offshore converters from competing manufacturers to communicate with one another in this future case;

    VELCO has no specific comments to offer in connection with this item.

14. Comment on the benefits and/or weaknesses of different ownership structures, such as a consortia of developers with transmission owners or use of U.S. DOE participation as an anchor tenant through its authorizations in the federal Infrastructure and Investment Jobs Act, for new offshore transmission lines;

    We believe the concept of U.S. DOE participation as an anchor tenant should be meaningfully explored. With regard to other scenarios, New England has a long history of collaboration in connecting, managing, and building out the regional grid, dating back to the 1960s, and continuing into the 1970s-80s and ever since, using a multi-stakeholder framework that is familiar and works. This includes successful participant-funded HVDC lines and high voltage lines, such as the interregional Phase I/II HVDC line. As we have publically stated, VELCO is actively exploring collaborative transmission project partnerships and remains very interested in considering and pursuing partnerships that comprise all manner of combinations of government, transmission owners, developers, and other stakeholders.

    In addition, we believe that the abilities of an incumbent should be fully considered in identifying developers. Competition on price alone can result in overlooking the relationships and experience an incumbent has in the local arena, as well as its long-term commitment to the resolution of local and regional issues. Our perspective is informed by our pass-through financial structure and the agreements we have successfully negotiated with merchant developers, such as the New England Clean Power Link project proposed by Blackstone's Transmission Developers, Inc. (TDI).

15. Comment on cost allocation mechanisms that would prevent cost-shifting between the states based on their policy goals and ensure that local and regional benefits remain quantifiably distinct. How should any future potential procurement identify and distinguish local, regional, and state-specific benefits (e.g., reliability) such that ratepayers only pay for services that they benefit from?

    Future allocation schemes should consider a wide range of benefits in order to best quantify who is receiving those benefits. For example, Vermont customers will benefit from some access to offshore wind power and other regional onshore renewables, but not to the same degree as the southern New England states will, which is where most of the load resides. Costs should be equitably shared, taking into account proportional sharing of tangible benefits as well as the proportional burden borne by states that host the transmission that serves the region. The Federal Energy Regulatory Commission is actively working on these issues and its work can and should inform any cost allocation methodology ultimately established.

    From a reliability standpoint, not all portions of the grid are in the same shape, and in some instances, state ratepayers have paid the bill to ensure their statewide grids are highly reliable, as we believe is the case in Vermont. Where grid reliability upgrades are needed to support new offshore wind, Vermont customers should only be responsible for a share of the cost of those upgrades that is directly proportional to their use of the new power that is brought on line.

With respect to quantifying policy benefits, we acknowledge that this may be extremely difficult to do, but it should not be an obstacle to needed development. The states should be able to establish a set of shared policy goals for regional development of additional renewable power generation and allocate accordingly.

16. Comment on the benefits and/or weaknesses of using a public-private partnership that might include one or more states or U.S. DOE as part owners with private developers or other sources;

    There can be complexities with public private partnerships in terms of reporting, approvals, and in general meeting federal/state requirements that private parties otherwise would not have to meet. However, a public private partnership is appropriate where both public and private entities benefit – and especially where policy-driven transmission has proven problematic to get built. Utilities already serve a significant public benefit by providing power to a wide number of consumers, and are significantly regulated from an economic standpoint to ensure rates that consumers pay are just and reasonable. Joint ownership between governmental entities and private developers is a further opportunity to ensure rates reflect the many public and private benefits these projects would provide, some of which are tangible but difficult to quantify, such as environmental and social benefits.

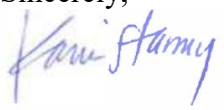
17. Comment on the co-benefits of landfalling offshore transmission lines, such as improvements to reliability and/or resilience (*i.e.*, through the use of HVDC converters or otherwise), economic development (*e.g.*, port development, hydrogen production, *etc.*) and any local system benefits. Identify ways to measure and maximize these co-benefits when evaluating transmission buildout.

    Vermont does not have a coastal shoreline, so we do not have specific comments to offer concerning this item.

## III. Conclusion

VELCO appreciates the opportunity to participate in this RFI. We look forward to continued active engagement and further discussions concerning these important regional topics.

Sincerely,



Karin Stamy
Vice President

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