EVERSOURCE ENERGY

REGIONAL TRANSMISSION INITIATIVE

Comments of Eversource Energy Service Company ("Eversource") on behalf of The Connecticut Light and Power Company, NSTAR Electric Company and Public Service Company of New Hampshire[1]

In response to the Participating States' Request for Information ("RFI") on major topics relating to transmission planning and integration of renewable energy resources,[2] Eversource is pleased to provide the following comments.

Eversource agrees with the Participating States that investments in the region's transmission system are urgently needed to integrate renewable energy resources, including but not limited to offshore wind resources, in a timely and cost-effective manner. Transmission investments, if well-planned, co-optimized and coordinated with the expansion of clean energy generation, will accelerate the New England region's transition to a reliable mix of firm and variable clean energy resources, improve winter reliability, reduce the frequency and magnitude of winter price spikes, and help reduce the region's dependence on imported fossil fuels. Congress and the U.S. Department of Energy ("DOE") agree with the urgent need as evidenced by the significant funding available through the Infrastructure Investment and Jobs Act ("IIJA") to accelerate the clean energy transition.

New England has a long history of successful, comprehensive planning to maintain the reliability of the transmission system in compliance with standards promulgated by the North American Electric Reliability Corporation and the Northeast Power Coordinating Council, Inc., and approved by the Federal Energy Regulatory Commission. The New England transmission owners ("TOs") have invested $11.7 billion since 2002[3] to improve the reliability of the regional transmission system. The New England TOs have a demonstrated track record of successfully completing ISO New England Inc. ("ISO-NE") approved regional system plan projects within 5% of initial planning cost estimates, on average. The New England TOs have *never failed* to construct a project that was needed for regional reliability and can bring the same resources to bear for projects that are urgently needed to integrate clean energy and improve winter reliability. Prioritizing partnerships and collaborative efforts with local, invested and experienced New England TO's such as Eversource, who have a successful track record in driving projects to completion, will help to expedite cost effective and timely solutions in the

[1] These public utility affiliates of Eversource own and operate New England's largest energy delivery system, with an extensive network of over 61,000 circuit miles of electric transmission and distribution lines.

[2] Notice of Request for Information and Scope Meeting, issued by the Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island ("Participating States") on September 1, 2022.

[3] *See* https://www.iso-ne.com/about/key-stats/transmission/.

region's transmission system that all stakeholders appear to agree are needed to integrate renewable energy resources.

Even with this long history of success, the evolution of policy objectives dictates that the New England region could benefit from a more comprehensive, holistic and forward-looking planning process to identify, with direction from the states, transmission investments that will be needed to integrate the coming influx of renewable resources to achieve state policy goals. Efforts to develop such a process are underway, but in the meantime, based on a wide range of studies already performed by the region as well as by Eversource, we need to **act now** on a set of targeted solutions that address existing interconnection queue backlogs, facilitate near-term clean energy procurements, improve winter reliability, position the region for electrification, and provide financial benefit to customers via DOE funding.

In the context of offshore wind generation, prior state-led Requests for Proposals ("RFPs") have correctly focused on the procurement of generation (through Power Purchase Agreements). Transmission facilities to support this generation are developed by the generators and the TOs under the ISO-NE interconnection procedures. This process has the benefits of minimizing costs and counterparty risks, and ensuring that transmission investments are sized appropriately to interconnect known generation. Through this RFI, the states are now considering whether further transmission investments should be undertaken with direction from the states, *in advance* of additional generation procurements.

I. Overview of response

Although there are some benefits to the existing process, Eversource is concerned that transmission procurements modeled directly on prior RFPs for clean energy generation could result in siloed and chaotic transmission development that results in higher costs to customers, does not comprehensively address the region's reliability and clean energy needs, and indeed puts meeting clean energy goals at risk. Instead, Eversource offers an alternative proposal for a more comprehensive, collaborative, coordinated and forward-looking approach. We then discuss the applicability of this approach in the context of offshore wind integration, and in the context of other renewable resources (onshore wind, solar, battery storage, and hydropower). Finally, Eversource responds to certain specific questions from the RFI.

II. Principles and an alternative approach

Eversource supports a proactive planning process, with input from communities, so that a lack of transmission is not a barrier to renewable resource integration. The goals of such proactive collaboration are to achieve the lowest overall costs to consumers, maximize benefits to customers, minimize community and environmental impacts, and incorporate measures to reduce burdens on environmental justice communities. Transmission projects should also be constructed as quickly as possible to meet the identified need for the project and to effectively minimize construction impacts.

Transmission planning can also be enhanced by using co-optimization to address multiple needs, such as incorporating two or more of the following aspects:

- Integration and delivery of clean energy from large and small generators
- Relief of saturated transmission and distribution interconnection queues
- Efficiently replacing aging infrastructure
- Ensuring reliable service to new customer loads driven by electrification and other development-driven load growth
- Delivering firm, clean generation to reduce dependence on fossil fuels for power generation during cold weather

Eversource is confident that the states can achieve their objectives by employing a multi-pronged approach that includes continuing to closely coordinate transmission investments with procurements of clean energy generation. Broadly speaking, the states should work collaboratively with ISO-NE and the existing TOs to identify so-called "no regrets" projects that provide maximum benefits across a range of scenarios, including enabling the offshore delivery of generation procured in future state-led RFPs. The states, TOs and ISO-NE should first prioritize transmission upgrades that maximize the hosting capacity of the existing grid and can be constructed largely within existing rights-of-way. This will reduce customer costs, reduce environmental and community impacts, accelerate siting and permitting processes and, most importantly, ensure that urgently-needed projects can be constructed as quickly as possible. There are numerous examples of more complex greenfield solutions causing higher environmental impact with slower siting and permitting timelines, and such solutions should be developed only if found to be needed after lower-impact upgrades have been identified. Finally, utilizing federal funding to the maximum extent possible will lessen the financial burden to all New England customers.

III. Comments specific to Offshore Wind

Consistent with our prior comments,[4] Eversource continues to believe that transmission investments to support offshore wind resources should be closely coordinated with associated generation investments. Eversource agrees with the states that the most desirable points of interconnection ("POIs") on Cape Cod will be saturated once the upgrades for the first cluster study are constructed. The next logical step should be to maximize utilization of existing infrastructure and consider additional POIs along the New England coastline.

At the outset, the states should distinguish between onshore ("dry") and offshore ("wet") transmission facilities. Maximizing the use of **onshore** transmission facilities will be critical to ensuring that the states' offshore wind and clean energy goals are achieved as quickly and as cost-effectively as possible. Existing POIs can likely accommodate up to 8,000 MW of offshore

[4] *See* Eversource comments in response to Massachusetts Department of Energy Resources' January 15, 2020 Request for Comment on Massachusetts Offshore Wind Transmission, found at https://www.mass.gov/service-details/offshore-wind-study.

wind output.

Additional, cost-effective upgrades to the existing, onshore, alternating current (AC) transmission system should also be undertaken to increase the amount of offshore wind that can interconnect at the existing POIs and/or create new POIs, thereby giving optionality to the offshore wind developers and potentially resulting in lower costs to customers by avoiding undesirable POIs. All of these upgrades would be either enhancements to existing facilities or constructed primarily within existing rights-of-way, which would minimize siting and permitting risk. Prioritizing upgrades to the existing, onshore AC transmission system has the added benefit of providing the ability to co-optimize the system to serve the reliability needs of customers and communities *and* to meet public policy goals such as the integration of distributed generation. Projects that create or enhance multiple POIs to support interconnection of multiple offshore wind transmission facilities could enable multiple states to contract for offshore wind generation resources in a coordinated manner and would be particularly well-suited to multi-state partnership and cost sharing arrangements. Due to the timing and nature of the solutions, this development of new or enhanced POIs should be done promptly in coordination with States and TOs and not be delayed or adversely impacted by a competitive process. The POIs would support future competitive procurements for offshore wind (wet) transmission and generation facilities.

If the states commit to supporting the development of onshore transmission upgrades that create new POIs and/or enhance existing POIs, Eversource and the other TOs could begin designing and engineering these upgrades in early 2023. An early start would help the POIs become ready to accept the interconnection of offshore wind transmission facilities, procured through state-led competitive solicitations, before the end of the decade.

Additional POIs should be considered collaboratively with ISO-NE and the TOs. Rather than continuing to rely solely on OSW developers to make transmission proposals, states should coordinate with ISO-NE and the TOs to determine what transmission upgrades would be necessary to integrate and deliver anticipated offshore wind generation in the most cost-effective and efficient means possible. This vision appears consistent with the goal of the Draft Modular Offshore Wind Integration Plan ("MOWIP") attached to the RFI, and Eversource would welcome the opportunity to work with the states to refine the Draft MOWIP with our engineering, siting, permitting and community engagement expertise.

Once existing and/or new POIs are identified, the states should utilize these POIs in solicitations for offshore wind generation and offshore transmission. At a minimum, the states should solicit offshore wind generation and offshore transmission in quantities that encourage developers to maximize the usage of these POIs, undersea corridors, and landfall locations. For example, 1,200 MW is a typical and appropriate size for an HVDC transmission facility. It may also be appropriate for the states to favor HVDC as the offshore transmission technology of choice, though requiring offshore interconnections *between* converter stations is not necessary at this

time.

Lessons learned from other regions also support this proposed approach. After reviewing approximately 80 project proposals from 13 developers over the past year, the New Jersey Board of Public Utilities recently selected a portfolio of onshore, AC solutions to create a new onshore POI and enable the interconnection of up to 4,800 MW of offshore wind. The Board selected this approach as the most practical and cost-effective solution for customers, and elected *not* to proceed with more complex and expensive proposals to create a large, offshore transmission system.

As described above, a collaboration among the states, ISO-NE and the TOs should use a portfolio approach that takes into account co-optimization opportunities, community impacts and potential for remediation, and other factors such as local reliability benefits. This process should prioritize "no regrets" upgrades that can be constructed in the near term to maximize the hosting capacity and reliability of the existing grid and support ongoing state clean energy procurements.

IV. Comments on other clean energy resources

The same collaborative planning process described above for transmission investments to support offshore wind resources should be used to develop transmission projects for other renewable and clean energy resources. And, because all renewable and clean energy resources can contribute to winter fuel security – particularly firm dispatchable resources such as hydroelectricity and variable resources in other regions that may experience different weather patterns – the states should also consider how to advance transmission solutions that provide interregional capacity in order to diversify New England's resource mix and improve winter reliability.

V. Response to Certain of the RFI's enumerated topics

Please note: Questions to which Eversource is not providing an answer have been omitted from this response.

Changes and Upgrades to the Regional Electric Transmission System Needed to Integrate Renewable Energy Resources

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.*

   Eversource seeks to partner with the states to best position the region to access federal funding for urgently-needed transmission upgrades. The availability of federal funding will go far to help make transmission investments more affordable for customers. To provide the best opportunity for success, Eversource believes the states should work with the TOs, who

have the technical and business expertise to help the states develop proposals that will be attractive to the DOE. The states should also seek partners with expertise in developing offshore transmission because development of transmission facilities to enable the interconnection of larger amounts of offshore wind may be of particular interest to DOE.

There are several potential sources of funding under the IIJA. Based on the eligibility criteria and limitations associated with each of these opportunities, Eversource recommends the states consider the following approach.

Section	Objective	Applicant	Recommendation
40101(c) Grid Resilience	Reduce likelihood of disruption and consequences of extreme weather	Transmission Owners and market participants	Targeted distribution system resilience investments pursued separately from Regional Transmission Initiative
40103(b) Grid Innovation	Facilitate coordination and collaboration and demonstrate innovative approaches to transmission development	States	Partner with Transmission Owners to (i) plan for offshore wind integration and maximize hosting capacity of the onshore grid and/or (ii) pursue inter-regional transfer capability increases
40107 Smart Grid	Deploy and catalyze technology solutions that increase flexibility, efficiency, reliability and resilience of the grid	Transmission Owners and market participants	Targeted distribution system smart grid investments pursued separately from Regional Transmission Initiative
40106 Transmission Facilitation Fund	Facilitate construction of transmission lines and related facilities	Entity seeking to carry out eligible project	Offshore wind and "wet" transmission developers pursue funding opportunity in furtherance of state clean energy and offshore transmission RFPs

Eversource recommends that the states pursue Grid Innovation (40103(b)) funding in support of the goals of the RFI. Specifically, the states should partner with Eversource and other TOs to holistically plan for offshore wind integration, as described above. TOs will support the states' development of a concept paper and funding application to the DOE. The states should advance the concept of an innovative partnership to maximize the hosting capacity of the onshore grid and develop several points of interconnection that can serve as hubs for offshore wind integration.

According to the draft Grid Innovation (40103(b)) Funding Opportunity Announcement, DOE is interested in both technical and non-technical approaches that improve grid reliability and resilience on a local, regional, and interregional scale. Innovative approaches can include advanced technologies, **innovative partnerships**, financial arrangements, deployment of projects identified by **innovative planning** and cost allocation approaches, and environmental siting and permitting strategies. Specifically, the Grid Innovation opportunity is designed to:

- increase transfer capacity between regions;
- address the most consequential system needs and challenges that cause or contribute to long and increasing interconnection queue time for clean energy; and
- increase supply of geographically and technologically diverse sets of location-constrained energy resources to enhance resource adequacy and reduce correlated generation outages.

Notably, the Grid Innovation opportunity requires that all of the iron, steel, manufactured goods, and construction materials used in the infrastructure activities of applicable projects are produced in the United States. In addition, eligible projects must be placed in service within 60-96 Months (5-8 Years). The Grid Innovation opportunity also requires a plan to attract, train, and retain a skilled labor force with strong labor standards, ensure workers' free and fair chance to join a union, and identify potential partners they are working with to support these objectives.

Onshore transmission facilities developed by Eversource and other TOs are best positioned to meet the requirements of the Grid Innovation opportunity. Only strategically designed, onshore upgrades that maximize the use of the existing onshore transmission system can realistically be developed within 5-8 years. Such upgrades are also well-suited to meet the domestic manufacturing requirements, particularly when compared to more specialized offshore transmission facilities. Finally, Eversource is already committed to supporting union labor and skilled workforce development programs as part of its core business, and would extend these commitments to any transmission projects that received federal funding.

Eversource has several project concepts that are eligible for Grid Innovation funding. These project concepts can be grouped into several broad categories:

a. Inter-regional energy security enhancements
b. Clean energy collection, integration, and delivery, enabling electrification
c. Targeted, tactical upgrades to enable clean energy delivery
d. Onshore hosting capacity upgrades and technical assistance to ensure offshore wind energy deliverability

In general, these project concepts deliver the following benefits:

- **Public Policy:** enable incremental offshore wind power interconnection and incremental clean energy delivery to customers; some provide new interconnection landing sites; increase transfer capacity to reduce clean energy curtailments

- **Energy Security:** enable various amounts of clean energy, including during winter, to reduce dependence on regionally imported fuel sources
- **Reliability:** relieve congestion near clean energy injection sites; reinforce regional system
- **Economic:** lower energy prices; provide construction jobs; enable tax base expansion
- **Planning and Land Use:** use existing rights of way to maximum extent possible; mitigate environmental and community impacts; co-optimized for multiple needs; and integrated complementary clean energy resources will increase use of the infrastructure

As the largest utility in New England, Eversource offers vast experience in all aspects of transmission project development that will be valuable to the states should they determine to partner with Eversource to pursue federal funding. Specifically, Eversource's pertinent experience is comprised of:

- technical expertise in designing transmission projects for the unique New England transmission system and environment;
- working closely and directly with local communities right from the early stages of project development;
- financing transmission development;
- proposing tariff and rate structures to implement cost allocation and cost recovery mechanisms that will be compatible with DOE funding opportunities (such as the DOE Grid Innovation Program and Transmission Facilitation Fund); and
- physically operating transmission facilities across New England and maintaining the reliability of the system in the face of new and increasing threats, such as cyber attacks

The region must act assertively and quickly to avail itself of the available federal funding described above. Given the well-documented, urgent need for transmission investments in our region's transmission system to integrate renewable energy resources (especially offshore wind resources) in a timely and cost-effective manner, **the time for action is now.** Eversource believes a well-developed and timely plan to identify and ultimately construct specific transmission facilities will need to be presented to the DOE. As such, Eversource recommends that the states take the following specific steps:

Late 2022 – Early 2023	➢ Establish a team with representatives from the participating states, affected TOs, and ISO-NE ➢ Work with team to identify existing POIs and potential new POIs that could be created with AC system expansions; ➢ Submit a concept paper when requested by DOE to initiate the application process for grants under the Grid Innovation Program ➢ Submit a full application under the Grid Innovation Program if requested by DOE

Q2 2023	➢ Solicit proposals for HVDC interconnections between the Bureau of Ocean Energy Management ("BOEM") lease areas and the POIs identified by the states and the TOs; ➢ Solicit proposals for offshore wind generation that will utilize either these HVDC interconnections
Q3 – Q4 2023	➢ Evaluate proposals and work with TOs to refine engineering and cost estimates for onshore upgrades
Late 2023	➢ Select the combination of proposals that minimizes overall costs while maximizing benefits, with the TOs serving on the evaluation teams; ➢ Direct the TOs to construct the onshore transmission upgrades needed to interconnect the winning proposal and commence engagement with affected communities; ➢ Direct the winning offshore wind developers to construct their proposals and apply to DOE for support under the Transmission Facilitation Program; ➢ Subgrant any DOE funding to the TOs to offset the costs of the onshore transmission facilities; ➢ Direct the TOs to develop and submit to FERC a cost recovery tariff that recovers the remaining cost of all the associated transmission facilities from load in participating states.

Assuming that a combination of offshore wind generation, offshore transmission and onshore upgrades is selected by the end of 2023, development of the onshore transmission facilities could proceed as follows:

Year	Activities
2023	➢ Refinement of engineering and designs in coordination with state RFPs ➢ Continue engagement with affected communities to go through final engineering and designs
2024	➢ Update engineering and design based on offshore resources selected in late 2023 and input from communities ➢ Complete development of siting petitions based on finalized design and community input
2025 – 2026 (ideally could be expedited with state and community support)	➢ Siting and permitting processes (including continuing public communication regarding that process)
2026 – 2027 (ideally could be expedited with state and community support)	➢ Complete siting/permitting and initiate construction
2029	➢ Upgrades enter service

Eversource also understands that DOE is likely to favor grant applications for projects that demonstrate innovation and provide multiple benefits. Project development following the approach proposed by Eversource will foster innovation in the following respects. First, the approach will support innovative partnerships by expanding on the region's long history of successful, joint planning for regional reliability projects to include new partnerships between the states, the TOs, and offshore transmission and generation developers. Second, the TOs could work with the states to incorporate innovative features that provide multiple benefits into the onshore transmission facilities. For example, such onshore transmission facilities are likely to be located in areas with significant development of distributed solar generation. Dynamic voltage control devices that will be needed to control voltages at offshore wind POIs could be co-optimized by the TOs to also provide local voltage control and mitigate the impact of distributed generation on the transmission system.

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.*

   There are a variety of ways to minimize the overall costs of the transmission upgrades that will be needed to integrate larger amounts of clean energy resources. First, states should work collaboratively with ISO-NE and the TOs to ensure that the pace of transmission investment is closely coordinated with generation procurements and local growth. Second, where a clearly-defined group of generators will benefit from a set of transmission upgrades, cost-sharing tariff structures should be designed to ensure that generators contribute to the costs of upgrades constructed for their benefit. This is similar to the cost allocation model used to fund California's Tehachapi Renewable Transmission Project. Further, Eversource cautions the states to be suspicious of proposals that include "cost caps" for early-stage project concepts, particularly from project sponsors that do not have experience in the New England region. Eversource and TOs can provide adequate transparency on costs and contingencies in order to ensure cost management throughout the process, including by performing detailed, technical analyses of the risks and benefits of different project designs. This approach should be supported by detailed engineering and cost estimates, and also accommodate refinements to project designs based on engagement with local communities.

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?*

   In order to achieve a comprehensive, cost-effective solution as the outcome of a potential procurement for transmission solutions, decisions about technical details should not be established in advance of any solicitation. Rather, the choice of technology and other technical details should be the outcome of the planning process and considered collaboratively with ISO-NE and the TOs. Narrowing the solution space to a single technology and rating at this stage of the clean energy transition could have the effect of

excluding potentially superior alternatives given the unique geographical and electrical characteristics of various points of interconnections and generation combinations.

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?*

   In the near term, Eversource asserts that diverse, "no regrets" transmission investments that are net beneficial in most or all planning scenarios should be prioritized. Transmission investments to enable clean-energy integration should be designed to minimize *overall* costs (including onshore transmission costs, offshore transmission costs and generation costs) and co-optimized to also support grid reliability and resiliency. Prioritization of upgrades should follow a detailed technical assessment of the tradeoffs between different alternatives, and ISO-NE, the TOs and the states should work together collaboratively on this assessment. Land-based upgrades can be co-optimized to provide numerous benefits to local and regional customers while also enabling the interconnection and delivery of clean energy generation. As such, avoiding land-based upgrades should not be a priority.

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.*

   Eversource agrees that land-based upgrades will be needed to balance generation from offshore wind and other resources. HVDC technology is particularly useful for interregional ties because it is controllable and can provide firm, clean, dispatchable power when paired with appropriate generation resources located in other regions. For example, land-based HVDC lines could integrate onshore wind, solar and hydroelectricity from New York or Canada to balance the variability of offshore wind developed in the Massachusetts BOEM lease areas.

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.*

   Eversource agrees that future infrastructure development should be conducted in a manner that implements and advances the states' policy priorities of environmental justice, equity, and workforce training and development in the industry, and should include integrated community engagement and involvement in the development phase.

   Eversource encourages the states to consider that transmission owners in New England, most of whom also own and operate local distribution facilities, are in a unique position to use their strong community ties to work collaboratively with communities that have traditionally been underserved and/or environmentally over-burdened to ensure that any individual transmission project has minimal negative impacts on affected communities. When developing upgrades to existing infrastructure to integrate additional clean energy generation,

it will be critical to work in partnership with stakeholder community members to determine the appropriate mitigation and/or remediation of existing or project-related community burdens. It is important to bear in mind that most independent transmission developers have no ongoing or pre-existing relationships with the community members that will be affected by the large-scale transmission investments that are needed to foster full implementation of the region's clean energy policies. The TOs all have long-term relationships with their customers and other stakeholders in affected communities, and a history of community collaboration to address the negative impacts caused by any project. The kind of demonstrated commitment to community that TOs have is necessary to give local communities the confidence that their issues will continue to be addressed by TOs that will have a continuous presence in their communities both before and after each individual transmission project is completed. To the extent any specific project results in unexpected negative impacts, the TOs will continue to work and operate the transmission grid within the relevant communities and are therefore best positioned to provide any further remediation or mitigation required.

Draft Modular Offshore Wind Integration Plan ("MOWIP")

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.*

    There are many different considerations when contemplating potential POIs in the ISO-NE control area. Past studies have only scratched the surface and have not attempted to co-optimize potential offshore wind transmission solutions with other needs, a feature that Eversource asserts is important to consider going forward. ISO-NE's 2019 Economic Study did not study capacity interconnection, stability or grid strength, and lacked input from transmission owners on constructability or alternatives. Similarly, ISO-NE's 2050 Transmission Study, while an important first step, was not designed to identify least cost POIs or optimize hosting capacity, and also lacked input from transmission owners; rather it was based on only one capacity expansion scenario.

    Eversource's internal assessments have shown that multiple POIs, with capacity to support several thousand megawatts of offshore wind interconnection exist or could be constructed along the Southern New England coastline before longer, more expensive connections directly into load centers are necessary.

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.*

Integrating offshore wind deeper into the region's transmission system may be beneficial and feasible in some locations, and to the extent that this type of POI helps the region achieve the states' objectives at least cost, Eversource would wholeheartedly support its further consideration. However, as discussed previously herein, Eversource believes the choice of technical details – including any specific type of POI – should not be specified at the outset of the planning process. To Eversource's knowledge, existing studies have only scratched the surface of determining what benefits or obstacles to an inland POI for offshore wind generation may exist.

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.*

    As noted above, Eversource suggests that the states look to more efficiently use existing excess capacity on the onshore transmission system before any consideration of an offshore "mesh" network, a nascent technology that is hoped to eventually enable power flows between offshore converters.[5] Additional available capacity at existing POIs, with cost-effective onshore upgrades, could accommodate full development of the BOEM lease areas off of the New England coastline. Mandating development of offshore network should not happen until identified challenges (*e.g.,* lack of standardization to enable multi-vendor HVDC network integration, such as communication protocols and standards for HVDC equipment and the lack of procurement and contractual best practices) have been further explored through European pilot programs and solved.

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.*

    Eversource stands ready to help the states assess potential ownership and governance structures for offshore transmission facilities. In particular, Eversource would like to ensure:

    - that development of offshore transmission facilities is coordinated and co-optimized with onshore AC upgrades;
    - that offshore transmission facilities leverage similar rate and tariff structures as onshore transmission facilities;
    - that the transmission providers for the offshore transmission facilities adhere to the same open-access principles as the providers of onshore transmission service (ISO-NE and the TOs); and

[5] *See* Executive Summary of the European Union Horizon2020 project PROMOTioN (Progress on Meshed Offshore HVDC Transmission Networks) suggesting that a full-scale pilot project be initiated to overcome remaining challenges associated with this technology; https://www.promotion-offshore.net/fileadmin/PDFs/20201013-promotion-executive-summary_ENG.pdf.

- a role for Eversource to facilitate arrangements under which the U.S. DOE acts as anchor tenant and later resells transmission capacity to interconnecting generators.

Eversource also cautions the states to be wary of proposed offshore transmission facilities that are overly complex from either a contracting or rate structure perspective, create potential conflicts of interest if the transmission developer is affiliated with existing generation due to the ability to exercise undue discrimination, or create governance issues that impede resolution of any local community impacts that arise during construction or after the facilities become operational.

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?*

    To the extent that the states desire to pursue multi-state cost recovery for transmission upgrades associated with renewable resources, Eversource first reiterates its suggestion that such transmission upgrades be developed in close coordination with procurements for specific generation projects. This will facilitate determinations about which renewable resources are benefitting from particular transmission upgrades. This will in turn facilitate the allocation of associated costs to those states that contract for the energy output from a particular resource. This could be accomplished directly, via a cost allocation tariff, or indirectly by assigning an appropriate portion of the transmission costs to a generator, which would be reflected in the cost for energy and associated environmental attributes sold by the generator under a PPA. For regional reliability benefits, ISO-NE will play a vital role in identifying these benefits and supporting their allocation on a regional basis.

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.*

    Determining any such benefits will require detailed study by ISO-NE, the TOs and others, as mentioned previously herein.

Eversource appreciates this opportunity to comment on the Participating States' RFI and looks forward to continuing to discuss opportunities to bring well-planned, co-optimized and coordinated transmission investments to bear in order to accelerate the New England region's transition to a reliable mix of firm and variable clean energy resources, improve winter reliability, reduce the frequency and magnitude of winter price spikes and help reduce the region's dependence on imported fossil fuels.

Please feel free to reach out to me should you have any questions or need additional information.

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