The Nature Conservancy

October 28, 2022

Comments submitted electronically
Via email to: transmission@newenglandenergyvision.com

Dear New England States' Regional Transmission Initiative:

Please accept The Nature Conservancy's (TNC) comments on the Participating States' (Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut) Regional Transmission Initiative Notice of Request for Information ("RFI") regarding changes and upgrades to the regional electric transmission system needed to integrate renewable energy resources, including offshore wind resources, and the conceptual framework for a multistate Modular Offshore Wind Integration Plan ("MOWIP").

TNC's mission is to conserve the lands and waters on which all life depends. We work in more than 70 countries and all 50 states in the United States. With the support of more than one million members globally, TNC has been working to conserve, protect, and restore coastal and marine habitats and species for over four decades around the world. Climate change threatens to undo decades of our successful conservation work and fundamentally alter our future. TNC is committed to helping reduce global greenhouse gas emissions to limit global warming to no more than 1.5° Celsius above pre-industrial temperatures. This goal cannot be achieved without a rapid transition to a clean energy economy. TNC believes that the offshore wind industry is critical to decarbonization and energy independence in New England and that it must be deployed at a pace and scale that allows us to reduce carbon emissions in time. We are determined to see a clean energy future that lowers costs for consumers and supports a broad set of regional benefits. A clean energy future will require a different approach to energy and transmission planning and procurement and a predictable, and flexible energy system. Modifying our approach is essential to the well-being of nature, our economy, our communities, and our planet.

The potential of offshore wind to decarbonize New England and transform it into a region sustained by local renewable energy is tremendous. But that potential will effectively remain trapped at sea if our regional transmission challenges are not coordinated and addressed. ISO-NE's 2019 study on offshore wind integrations concluded that any significant quantity beyond 5,800 MW of offshore wind may not be able to interconnect into the regional grid without significant transmission upgrades and that the already contracted offshore wind would consume existing capacity at the most easily accessible interconnection points along the southern New England coast.[1] Any new offshore wind beyond that already contracted may require new 345 kV transmission lines on new rights-of-way. One published report indicates that developers face up to $787 million in onshore upgrade costs at these sites and that continuing this approach in the

[1] 2019 *Economic Study: Offshore Wind Integration*, ISO New England Inc., June 30, 2020.

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next procurements could require more than an additional $1 billion in upgrades.[2] When considering the existing capacity constraints and then considering the regional decarbonization goals, the offshore wind deficit is clear. The Massachusetts' Decarbonization Roadmap[3] and a 2019 Brattle Group study[4] describing how New England can achieve 80% GHG reductions by 2050 estimate that New England will need between 30GW and 45GW of offshore wind by 2050 to realize the states' collective decarbonization policies. To this end there is no greater climate action, and therefore no greater conservation action in New England than resolving the challenge of offshore wind transmission. In particular, the limitations of the existing onshore points of interconnection and the number of points of interconnection needed to receive offshore wind energy must be addressed. Without solving this challenge, we cannot build out the renewable energy and transmission infrastructure needed at the pace and scale required to achieve our climate goals in time.

For this reason, TNC supports the innovative regional transmission initiative contemplated in the RFI and the associated MOWIP. This is the best approach for meeting our collective climate goals and for developing a sustainable, predictable, and flexible energy system that will minimize environmental impacts, and address regional and interregional reliability needs in the most cost-effective way.

TNC's comments in response to the specific information requests in the RFI and MOWIP follow:

RFI Question No. 1 - Positioning to Access U.S. Department of Energy ("DOE") Funding

Funding through the Infrastructure Investment and Jobs Act (IIJA) may be available to support the Regional Transmission Initiative in several ways. The best way to position access to funding may be to consider an expeditious, but phased approach to developing the first draft Request for Procurement ("RFP") for joint transmission.

Section 40103 of the IIJA, entitled *Electric Grid Reliability and Resilience Research, Development, and Demonstration* is designed to encourage collaborative efforts that "demonstrate innovative approaches to transmission, storage, and distribution infrastructure to harden and enhance resilience and reliability; and to demonstrate new approaches to enhance regional grid resilience, implemented through States by public and rural electric cooperative entities on a cost-shared basis." [5]

The idea of a Regional Transmission Initiative is, in and of itself, a collaborative and innovative approach. But the best way for the Participating States to position themselves to access this funding or other DOE project participation options may be to first establish the governmental paradigm and the implementing mechanisms that will support the shared outcomes of the

2 The Brattle Group, *Offshore Transmission In New England: The Benefits of A Better Planned Grid*, May 2020, at Slide 5. The Brattle report was prepared for Anbaric.
3 https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download.
4 https://www.brattle.com/wp-content/uploads/ 2021/05/17233_achieving_80_percent _ghg_ reduction _in_new_england_by_20150_september_2019.pdf
5 Infrastructure Investment and Jobs Act. Section 40103. Nov. 15, 2021.

Initiative. Last year, the New England states hosted a technical forum to address the existing governance structure for ISO-NE decisions related to resource adequacy, system planning, and operation requirements in the region. The learning from those discussions may apply here. It is important to ensure that ISO-NE is aligned with the New England state's mandates and policy imperatives, consistent with the New England States' Vision for a Clean, Affordable, and Reliable 21st Century Regional Electric Grid expressed through the New England States Committee on Electricity (NESCOE). It is also important that the Participating States are aligned especially as related to approaches for cost and benefit sharing. Creating and managing the process to establish the ground rules and the alignment work itself requires resources. Funding, through the above-referenced section of the IIJA, may be available to assist the Participating States with the planning and cost allocation considerations phase of this collaborative effort in addition to ultimately supporting future joint procurements. A focus on first creating a transparent and engaged planning process will act as a foundation for future discussions and decision-making related to regional procurements and improve the substantive outcomes the Participating States are working to achieve.

With respect to funding for the groundwork phase of regional procurement – DOE recently announced a Notice of Intent to Issue *Bipartisan Infrastructure Law Funding for the Reduction of Barriers to Offshore, Land-Based, and Distributed Wind Deployment*.[6] Of this $28 million funding stream, approximately $7 million is available to help affected communities more effectively participate in and capture benefits from offshore wind energy development. The Participating States may be able to include a request for this funding to support meaningful stakeholder engagement in a process that evaluates the governance structure for the Regional Transmission Initiative.

The Participating States may also be able to leverage DOE funding by requesting in a draft RFP for transmission, projects that support the advancement of technologies needed to transmit large amounts of energy from offshore wind over long distances, including HVDC transmission for offshore wind. Approximately $10 million of the $28 million funding stream referenced above is designed to support efforts that address issues of reliability and compatibility with alternating current and direct current, and generally to support HVDC transmission deployment for offshore wind.

Finally, the Participating States, making up a geographic area that is "experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers," may want to consider the benefits available to the region if it were to be designated a National Interest Electric Transmission Corridor pursuant to Section 40105 of the IIJA.

Ultimately, a well-designed governance structure is a necessary underpinning to regional energy transformation. The Participating States have long recognized this need, but the regional coordination, planning and stakeholder engagement requires a commitment of time and resources

[6] Biden-Harris Administration Announces $30 Million from Bipartisan Infrastructure Law to Speed Up Wind Energy Deployment | Department of Energy

the Participating States may not have. IIJA funding may be available to support the design of a sustainable and flexible governance structure through a robust and meaningful stakeholder process; joint transmission and offshore wind procurement; and the coordination efforts of the Regional Transmission Initiative that will be required to participate in the development and operation of an offshore grid that provides energy to the region.

This is exactly the type of innovative, regionally oriented, forward-thinking effort that the Infrastructure Investment and Jobs Act (IIJA) is designed to support.

RFI Question No. 2 – Minimizing Adverse Impacts to Ratepayers; and MOWIP Question No. 15 – Cost Allocation Mechanisms to Prevent Cost-Shifting Between the States

As stated in the response to RFI Question No. 1, establishing a process and meaningful opportunities for stakeholder engagement is the best way to ensure that all stakeholders fully understand the approaches being considered and the implications, as well as the costs and benefits associated with a status quo transmission system and the state-specific and regional benefits that coordinated transmission could provide. There are two principles that should govern decisions related to regional transmission: 1) no state alone should bear all the risks and costs associated with the transmission upgrades that will benefit New England as a region and 2) consideration of costs and benefits must be comprehensive and include the costs of inaction. For these reasons, in addition to designing a governance structure, the Participating States should: identify a standard set of benefits to be evaluated in every considered energy project; assign a weight that consistently and appropriately values the identified benefits; approve a scoring mechanism for bids that not only appropriately values the benefits but that can account for adjustments to relative state ratepayer costs and; develop a process and a formula for cost versus benefit calculations that supports fair and reasonable cost allocations. Some costs like those associated with improved regional or interregional system reliability, the achievement of state decarbonization goals, investments in research and monitoring, supply chain and workforce development that advance the commercialization of a domestic offshore wind industry or benefit migratory species and essential marine and coastal habitats, *should be shared across the region by ratepayers.* Ultimately, a joint transmission procurement process should recognize, incorporate, and appropriately assess and relatively credit a broad set of benefits that are shared by the region. Having noted the importance of regional benefits as something Participating States share it is also important to account where logical, for more specific differences in what benefits ratepayers receive. Therefore, to the extent there are costs associated with specific transmission projects that are not associated with easily traceable and calculable benefits to ratepayers in a specific state, those costs should be able to be avoided or adjusted in accordance with an established negotiation and review process.

RFI Question No. 3 – Identify Advantages and Disadvantages of Utilizing Different Types of Transmission Lines (*i.e.*, HVDC versus HVAC).

A number of HVDC projects, like the offshore wind HVDC hub in Germany (BorWin1), which was subsequently followed by multiple offshore HVDC wind projects (*e.g.*, the UK Dogger Bank offshore wind project) and subsea HVDC interconnections, like the NordLink project connecting

the Norwegian and German power grids, are well established and good sources of information relative to this question. The European example, in general, is a good source of data to understand the advantages of HVDC lines versus HVAC lines. As Europe strives to integrate more decentralized and intermittent renewable energy sources like offshore wind and build a single energy market that will allow countries to trade electricity across national borders, the need for a flexible energy system that can transmit electricity over long distances has meant moving away from AC technologies, which require significant upgrades, to HVDC technologies. Another example is the Zhangbei project in China, which was built to provide low carbon power to the Beijing Olympic games in 2022. It was designed using HVDC technology with interconnected converter stations in a meshed grid and is capable of delivering up to 4.5 GW of energy. The Brattle Group analysis of options for New York, found that use of HVDC lines instead of AC lines could significantly reduce seafloor disturbance by reducing the number of offshore platforms, cabling, and cables landing at the coast. The study found that HVDC transmission avoided substantial risks associated with onshore upgrades, maximized the transmission capacity along heavily constrained potential transmission routes and afforded more predictability for developers.[7]

All of this being said, the Participating States should articulate a transparent process that outlines how the trade-offs associated with these different technologies will be considered and addressed. In terms of best practices when evaluating direct development related impacts, the mitigation hierarchy of avoid first then minimize then mitigate is still primary. But the direct development related impacts must be weighed on balance with the biodiversity and conservation gains that can only come with climate mitigation and in full light of any additional burdens to environmental justice and fence-line communities that these decisions may create.

RFI Question No. 4 – Whether Certain Projects Should be Prioritized and Why

The goals for shared transmission should be to reduce costs for ratepayers and improve environmental outcomes (through both avoidance of direct development impacts and maximizing potential for climate mitigation) while equitably improving system reliability and the integration of offshore wind energy with the grid. Projects should be prioritized based on how well they respectively address these goals. Articulating a uniform set of broad environmental, community and economic benefits into the equation for selecting projects would be a good guide. In general, from what we understand about the relative comparison posed by the question, yes, an HVDC offshore project that eliminates the need for major land-based upgrades should be prioritized over another HVDC project that does not eliminate the need for such upgrades, all things being otherwise considered equal.

[7] Brattle Group. *Offshore Wind Transmission: An Analysis of Options for New York*, Pfeifenberger and Newell, 2020, Slides 12, 19 and 21.

RFI Question No. 7 – Comment on the Region's Ability to Use Offshore HVDC Transmission Lines to Facilitate Interregional Transmission in the Future

One of the most important goals of the Regional Transmission Initiative and therefore the use of HVDC lines is to facilitate interregional transmission in the future. There is not a competing or preferable option at this point and yet this functionality is likely a very significant factor in achieving both decarbonization and reliability goals in the transition to renewable energy. Please also see answer to RFI Question No. 3.

RFI Question No. 8 – Comment on Any Just-Transition, Environmental Justice, Equity, and Workforce Development Considerations or Opportunities and MOWIP Question No. 17 – Comment on the Co-Benefits of Landfalling Offshore Transmission Lines

A just transition to a decarbonized electric grid means that decision-makers must commit to an approach that does not add to the cumulative impacts of exposure from the multiple environmental burdens often experienced by low-income and people of color communities. Some impacts for consideration in urban areas include: interference with public access to the shoreline or to green spaces along the shoreline in urban areas; increased respiratory and related illness and death caused by exposure to stationary and mobile air pollution and elevated heat in urban areas; lack of consideration for and coordination with community improvement goals designed to increase recreational opportunities and transform urban waterfronts. To really understand how state and regional plans will intersect and possibly undermine community objectives, decision-makers should talk with community leaders. This means that, first and foremost, the New England States should develop and execute strategies to educate citizens and leaders in these communities about the need for infrastructure upgrades and transmission expansion and engage in deliberate and meaningful conversations about the possible impacts and opportunities. This step is key to making sure that impacted communities are equipped with the data and information they need to participate in any public process. To this end, and as referenced in the response to RFI Question No. 1 the DOE funding announced in the recent Notice of Intent is available to help affected communities more effectively participate in and capture benefits from offshore wind energy development. The Participating States should seek funding to design a framework for effectively engaging fence-line communities in this process and for the support of active participation in the process by impacted community members.

Equally important to ensuring that transmission-related decisions do not add impacts, is to expeditiously decarbonize the energy sector and intentionally maximize the benefits and opportunities for historically burdened communities that will come with a regional energy transformation. Many communities, especially in New England, face significant environmental and health problems as a result of the cumulative impacts of air and water pollution from irresponsible siting and permitting decisions and inadequate regulatory enforcement. Many in these same communities are now threatened from climate change impacts like exacerbated air pollution, heat island effect, flooding and disproportionately bad health outcomes associated with pollution. In October of this year, the Lancet Countdown on Health and Climate Change: Policy Brief for the United States of America, concluded that "climate change is an accelerating health

crisis" and the "health impacts are not experienced equally."[8] In the section addressing U.S.-key indicators for health, the report found that with respect to air pollution, Indicator 3.3, "approximately 32,000 deaths in the U.S. [in 2020 were] due to exposure to ambient anthropogenic PM5. Of these, 37% were directly related to fossil fuel burning." Id. Indicator 4.1.4 reported that the "monetized value of these deaths due to air pollution was estimated to be $142 billion (0.7% of the U.S. GDP), equivalent to the annual income of over 2.2 million people under average income in the U.S. combined." Id.

Expediting and maximizing the delivery of clean energy into the grid will provide environmental, health and economic benefits. These benefits should not be undervalued or ignored. Decarbonizing the energy system will reduce our reliance on the dirty fossil fuels that are making people sick and translate to significant cost savings at both the individual and community levels. Carefully planning the upgrades to the transmission system and development of renewable energy projects to also address coastal resiliency and public access, to reduce diesel emissions in port areas, to empower local communities to generate and connect their own clean energy, and to access good paying and long-term jobs that support the renewable energy and grid transformation is to purposefully plan for a just and sustainable transition.

RFI Question No. 9 – Comment on Solutions That Maximize the Reliability and Economic Benefits of Regional Clean Energy Resources

The Regional Transmission Initiative is an example of a solution that helps maximize the reliability and economic benefits of regional clean energy resources. In addition to being more cost effective than the land-based alternatives and/or business as usual, regional collaboration and joint transmission and project procurements would play a key role in enabling offshore wind to get to scale in time. Getting to scale is closely linked to being able to reduce the cost of renewable energy and therefore represents a fundamental economic benefit. In addition, a regional structure for procurement will build greater confidence in offshore wind, which will itself be a positive economic or market signal with likely positive economic outcomes for renewable energy. Also, the ability to connect to other interregional transmission systems is key for long-term reliability and will not be easily achieved without regional collaboration and continued coordination with ISO-NE.

MOWIP Question No. 12 – Identify Likely Offshore Corridor Options for Transmission Lines.

TNC is not recommending any particular cable corridors at this time but notes a few points for consideration. First, by looking at the offshore transmission system as a whole and how it integrates with onshore systems, the Participating States will be able to plan the upgrades to the transmission system in a way that is more mindful of cumulative environmental and community impacts. This is in contrast to the current approach where cable and capacity considerations are at the individual project level. Second, we note the recent NYSERDA cable corridor study which both reflects the kind of pro-active work that can be done to get ahead of the cable locating

[8] 2022 Lancet Countdown U.S. Brief - LANCET COUNTDOWN: (lancetcountdownus.org)

challenge and offers results that can be useful in this effort. Finally, there are a number of marine spatial plans that can be used to guide decisions related to cable location. The Massachusetts Ocean Plan, the Rhode Island Ocean Special Area Management Plan, and the Connecticut Blue Plan. Each of these plans are being used by multiple parties including to address cable location questions. We are pleased with and supportive of efforts now underway by the Blue Plan Advisory Committee and Connecticut Department of Environmental Protection to pursue a special project that would investigate and make recommendations pro-actively regarding cable locations using the Blue Plan as the foundation. The Participating States should work together to identify key information and concerns so that ideal cable locations can be identified and recommended as early as possible in the offshore wind review process.

<u>MOWIP Question No. 15</u> – Comment on Cost Allocation Mechanisms That Would Prevent Cost-Shifting Between the States Based on Their Policy Goals

If we are truly going to transform the way we meet our regional electricity needs, transformative ideas need to be more central to the framework. The overall benefits to New England (and by contrast, the harms to New England caused by delay), that would result from a regionally coordinated approach to climate mitigation must be quantified holistically. The Participating States should not let perfect be the enemy of the good – or risk delaying the urgently needed action to meet our future energy needs sustainably, predictably, and flexibly. As discussed in our response to RFI Question No. 2, it is important to establish a process and test that ensures a fair and open process, and a governance structure that is flexible enough to achieve the energy transformation that gets us to net zero emissions by 2050.

Thank you for your consideration.

Sincerely,

/s/ Tricia K. Jedele

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cc: TNC OSW Team