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Clean Energy Transmission Working Group
Massachusetts Department of Energy Resources
100 Cambridge St., 9th Floor
Boston, MA 02114

Subject: CETWG Second Draft Report

Co-Chairmen Marshall and Van Nostrand and Members of the Working Group:

RENEW Northeast, Inc. ("RENEW")[1] submits these comments in response to the Clean Energy Transmission Working Group ("CETWG") Second Draft Report. The CETWG has prepared a comprehensive report on the transmission challenges facing New England and developed an important set of recommendations for ensuring the region can meet its clean energy requirements at the least cost to consumers and with minimal environmental impact. Thank you for your work to develop the report. RENEW's comments offer suggestions for additional recommendations.

I. Introduction

RENEW strongly supports the efforts of the New England states to work cooperatively on regional transmission planning to ensure the most cost-effective and reliable deployment of renewable energy resources. The need for expanded transmission has never been clearer. The CETWG's report is an important step in this process and builds on an extensive list of studies over the past decade identifying current and anticipated transmission constraints and, in many cases, identifying solutions.[2] Procuring the first round of necessary transmission projects in the near term will enable the New England states to access new federal funds and address grid constraints that threaten to impede the transition to a clean energy future. It should become the top recommendation in the CETWG report.

The New England states and ISO New England ("ISO-NE") are working to develop new processes in the ISO-NE Tariff to address longer-term transmission needs driven by climate policy[3] and to comply with transmission planning requirements set by the Federal Energy Regulatory Commission ("FERC").[4] These processes should help New England build necessary transmission over the mid- to long-term. The prospect of these new processes leading to an efficient way to procure future transmission is promising. However, the need for new transmission in the near-term to avoid lengthy delays for the renewable energy build-out is clear. Until this new preferable process is developed, the states should utilize existing state laws and ISO-NE rules to issue solicitations without delay. New England does not have the

luxury of time before upgrades to the transmission system are needed.

RENEW's comments are rooted in core principles related to offshore wind transmission and build on RENEW's longstanding advocacy to address onshore grid constraints. RENEW supports outcomes in New England that enable competition, optimize interconnection of new resources, and increase the single contingency limit for new resources to at least 2,000 MWs.

If transmission is not built before generation is procured, renewable energy development will be more expensive, or may not happen at all. Maine presents a cautionary example, as the buildout of land-based wind stalled after accessible, low-cost connections were utilized. A similar challenge now confronts offshore wind. With the grid in Southeast New England becoming more saturated with renewable energy resources, it will require larger, longer-distance and more expensive transmission to demand centers or major onshore transmission upgrades.[5] Spreading the costs of these major projects among multiple projects and multiple beneficiary states will avoid overburdening the economics of any single project. RENEW supports offshore wind transmission development policies that: (1) are most likely to enable responsible development of offshore wind at the lowest cost and risk to ratepayers; (2) give the leaseholders and independent transmission developers discretion on interconnection points for them to select the most cost-effective, environmentally friendly, and reliable interconnection for their projects; (3) maintain existing contractual arrangements; (4) recognize the situation of generation projects in advanced permitting and interconnection queue processing; and (5) achieve near term state offshore wind goals while enabling full development of the Northeast's offshore wind resource.

II. Comments

A. Massachusetts Should Continue Using Competitive Solicitations for Transmission Procurements and Renew Authority for DOER to Solicit and Procure Transmission to Support Development of Land-Based Renewables.

Drawing on existing legal authorities and public policy objectives, States can run competitive solicitations and select preferred projects that meet their identified needs. Connecticut[6], Rhode Island[7], and Maine[8] have existing statutory authority to procure transmission. Two recent legislative acts granted DOER the discretion to procure offshore wind energy transmission.[9] The authority to procure other transmission in coordination with one or more New England states, which enabled Massachusetts to procure transmission to enable renewable energy development in Maine, expired on December 31, 2022.[10] Renewal of this authority would particularly support new land-based renewables. Accordingly, RENEW supports the CETWG draft report recommendation to "solicit and select proposals for transmission to deliver clean energy generation to help achieve the Commonwealth's clean energy requirements, beyond existing authority to solicit and select transmission related solely to offshore wind."[11] Vermont's System Planning Committee requires development of a 20-year transmission plan every 3 years and assigns responsibility for implementation.[12] New Hampshire's Renewable Portfolio Standard[13] provides a basis for participating in a Voluntary Agreement with other States and ISO-NE to plan and pay for transmission.[14] By running a

procurement themselves, the states have the ability to control this process and work collectively with each other.[15] If multiple states desire to work cooperatively, solicitations could be issued jointly, through parallel state-level solicitations or a voluntary agreement designed to ensure consistency and allocate costs according to the preferences of the states.[16] Meanwhile, projects submitting responses to theses solicitations would be responsible for achieving the appropriate ISO-NE interconnection approval.

B. Transmission Planning Must Consider Technological Advances and Expected Offshore Wind Development in the Gulf of Maine.

Optimizing interconnection of new resources – particularly offshore wind – is one of the most important contributions found in ISO-NE's recently released draft of its 2050 Transmission Study. In pursuing optimized transmission, it is important for the CETWG to account for material developments that have occurred since assumptions underlying the 2050 Transmission Study were made. Many of the ISO-NE assumptions were taken from the Massachusetts Decarbonization Roadmap, which was published in 2020, and for which assumptions were made in 2018/2019.[17] In the years since that study, transmission technology has matured and the location of new offshore wind generation from the Gulf of Maine has become clearer. Offshore wind projects have gotten larger and are utilizing HVDC transmission to interconnect to the terrestrial grid. Offshore wind from the Gulf of Maine could thus interconnect to southern New England to avoid onshore grid constraints in Maine, while also meeting increasing electricity demand in the Boston area.

C. The Regional RTOs Should Accelerate Efforts to Overcome the 1,200-MW Single Contingency Limit.

To optimize the transmission buildout, the three Northeast RTOs should accelerate efforts to reevaluate and update its single contingency loss of source limit placed on new interconnections. RENEW urges the CETWG to make this a recommendation in its report. ISO-NE restricts new interconnections to a 1,200-MW single contingency loss of source limit to protect neighboring control areas from the impact of losing too much supply at once.[18] Given the scale at which new clean energy development will be taking place, as seen in the ISO-NE draft 2050 Transmission Study, the region should explore all options to enable building fewer, larger transmission facilities to improve cost effectiveness while reducing environmental impacts. So long as offshore wind continues to interconnect using radial cables, the existing 1,200-MW limit would, for example, require seven separate undersea circuits to interconnect 8,000 MWs of offshore wind to southeast New England.[19] If the 1,200-MW limit on new interconnections were raised to 2,000 MWs, four undersea circuits could be sufficient to interconnect 8,000 MWs. Allowing for these larger interconnections could enable offshore wind projects to capture further economies of scale, reduce total costs to consumers, and lessen the environmental impact to the region.[20]

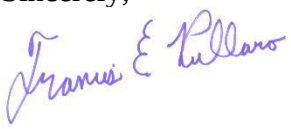
Based on the annual reports ISO publishes on external interface metered data, the Phase I/II tie line between ISO-NE and Hydro Quebec, which is rated at 2,000 MWs, operated above 1,200 MWs in approximately 93 percent of hours in 2021.[21] Clearly, the

region and its neighboring systems are regularly able to manage a loss of source in New England that exceeds 1,200 MWs, even if this is not possible in all hours. Given the increasing frequency with which ISO-NE has been able to reliably allow existing resources to operate above 1,200 MWs, the region should revisit the need to restrict new interconnections to 1,200 MWs. We appreciate the initiative underway through the Joint ISO/RTO Planning Committee consisting of ISO-NE, NYISO and PJM to determine the feasibility of raising the minimum source loss limit to 2,000 MWs.[22] We encourage ISO-NE and the New England states to request expedited completion of necessary studies and any regulatory reforms and system upgrades need to enable 2,000-MW interconnections. Any new resource over 1,200 MWs could, in the short term, be subjected to the same operational limitations placed on existing resources over 1,200 MWs to maintain system reliability. Even with such operational restrictions, it may still be financially and environmentally advantageous to the region to be able to interconnect new resources using fewer radial transmission lines.

III. Conclusion

RENEW respectfully requests the final report recommend the states: (1) utilize existing state laws and ISO-NE rules to procure transmission without delay; and (2) urge the regional RTOs to accelerate efforts to overcome the 1,200-MW single contingency limit. On behalf of its members, RENEW appreciates the opportunity to comment on the CETWG Second Draft Report.

Sincerely,



Francis Pullaro
Executive Director

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[1] The comments expressed herein represent the views of RENEW and not necessarily those of any particular member.

[2] The most recent studies include: ISO-NE, *2015 Economic Study Evaluation of Increasing the Keene Road Export Limit* (September 2, 2016), https://www.iso-ne.com/static-assets/documents/2016/09/2015_economic_study_keene_road_increased_export_limits_fina.docx

ISO-NE, *2015 Economic Study Strategic Transmission Analysis—Onshore Wind Integration* September 2, 2016), https://www.iso-ne.com/static-assets/documents/2016/09/2015_economic_study_onshore_wind_integration_final.docx

ISO-NE, *2016 Economic Study: NEPOOL Scenario Analysis* (November 17, 2017), https://www.iso-ne.com/static-assets/documents/2017/11/final_2016_phase1_nepool_scenario_analysis_economic_study.docx

ISO-NE, *2019 Economic Study: Economic Impacts of Increases in Operating Limits of the Orrington-South Interface* (October 30, 2020), https://www.iso-ne.com/static-assets/documents/2020/10/2019-renew-es-report-final.docx

ISO-NE, *2016/2017 Maine Resource Integration Study* (March 12, 2018), https://smd.iso-ne.com/operations-services/ceii/cluster-studies/final_maine_resource_integration_study_report.pdf (requires access to Critical Energy Infrastructure Information)

ISO-NE, *Final Second Maine Resource Integration Study* (October 30, 2020), https://www.iso-ne.com/static-assets/documents/2021/01/second-maine-resource-integration-study-report-non-ceii-final.pdf

RLC Engineering, *QP639 Elective Transmission upgrade Interconnection System Impact Study Final Report* (May 7, 2020))(prepared for ISO-NE), https://smd.iso-ne.com/planning/ceii/studies/me/qp639-etu-1200-mw-hvdc-sis-report_may072020.pdf and associated *QP889 Elective Transmission Upgrade Interconnection System Impact Study Final Report* (September 24, 2021), https://smd.iso-ne.com/planning/ceii/studies/me/qp889-etu-sis-report.pdf

ABB Inc., *QP506 Internal HVDC North to South Flow System Impact Study Report* (July 28, 2017)(prepared for ISO-NE), https://smd.iso-ne.com/planning/ceii/studies/ma/qp506-internal-hvdc-north-to-south-flow-sis-report_jul282017.pdf (requires access to Critical Energy Infrastructure Information)

ISO-NE, *2019 Economic Study: Offshore Wind Integration* (June 30, 2020), https://www.iso-ne.com/static-assets/documents/2020/06/2019_nescoe_economic_study_final.docx

ISO-NE, 2019 *Economic Study: Significant Offshore Wind Integration* (October 5, 2020), https://www.iso-ne.com/static-assets/documents/2020/10/2019-anbaric-economic-study-final.docx

ISO-NE, *First Cape Cod Resource Integration Study Redacted Non-CEII Version* (July 30, 2021), https://www.iso-ne.com/static-assets/documents/2021/07/cape-cod-resource-integration-study-report-non-ceii-final.pdf

ISO-NE, *Second Cape Cod Resource Integration Study Preliminary Results* (April 28, 2022), https://smd.iso-ne.com/operations-services/ceii/pac/2022/04/a6_second_cape_cod_resource_integration_study_preliminary_results_ceii.pdf

ISO-NE, *New Generation Curtailment Analysis—Pilot Study Preliminary Results* (April 28, 2022), https://www.iso-ne.com/static-assets/documents/2022/04/a5_new_generation_curtailment_analysis_pilot_study_preliminary_results.pdf

[3] ISO-NE, Extended-Term/Longer-Term Transmission Planning Phase 2 (November 21, 2023), https://www.iso-ne.com/static-assets/documents/100005/a02_2023_11_21_tc_ltts_presentation.pdf

[4] ISO-NE, *Extended Term Transmission Planning Tariff Changes Key Project* (last visited May 20, 2022), https://www.iso-ne.com/committees/key-projects/extended-term-transmission-planning-key-project/; ISO-NE, *2050 Transmission Study: Preliminary N-1 and N-1-1 Thermal Results* (March 16, 2022), https://www.iso-ne.com/static-assets/documents/2022/03/a4_2050_transmission_study_preliminary_n_1_and_n_1_1_thermal_results_presentation.pdf; and ISO-NE, *2050 Transmission Study: Sensitivity Results and Solution Development Plans* (April 28, 2022) [hereinafter 2050 Study Sensitivity Results], https://www.iso-ne.com/static-assets/documents/2022/04/a14_2050_transmission_study_sensitivity_results_and_solution_development_plans.pdf

[5] Only 1,200 MWs of the 2,800 MWs proposed to interconnect to Southeast Massachusetts could feasibly interconnect, requiring either 1,200 MWs of HVDC transmission to the Boston area, or major new transmission between Cape Cod and Boston. ISO-NE, *Second Cape Cod Resource Integration Study Preliminary Results* (April 28, 2022), https://smd.iso-ne.com/operations-services/ceii/pac/2022/04/a6_second_cape_cod_resource_integration_study_preliminary_results_ceii.pdf (requires access to Critical Energy Infrastructure Information).

[6] Conn. Gen. Stat. §16a-3j and 16a-3n (DEEP may procure renewable energy and "any associated transmission").

[7] R.I. Gen. Laws §39-31-5.

[8] 35-A M.R.S §3210-H.

[9] An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, St. 2021, c. 8, §95; An Act Driving Clean Energy and Offshore Wind St. 2022, c. 179, §70.

[10] An Act Driving Clean Energy and Offshore Wind St. 2022, c. 179, §82.

[11] CETWG Second Draft Report at 54.

[12] 30 V.S.A. § 218c.

[13] RSA 362-F:9.

[14] *State Voluntary Agreements to Plan and Pay for Transmission Facilities*, 175 FERC ¶ 61,225 (2021) [hereinafter Policy Statement] (voluntary agreements among States are not precluded by federal law, and provide them a way to prioritize, plan, and pay for transmission facilities as an alternative to Order No. 1000).

[15] *See* Pullman & Comley, LLC, *Three Is Not a Crowd: A Tri-State Approach to Producing More Clean Energy*" (December 28, 2015), https://www.jdsupra.com/legalnews/three-is-not-a-crowd-a-tri-state-46846/

[16] *See Id.*

[17] See: draft_2050_transmission_planning_study_scope_of_work_for_pac_rev2_clean.pdf (iso-ne.com)

[18] ISO New England Planning Procedure No. 5-6 Interconnection Planning Procedure for Generation And Elective Transmission Upgrades, Appendix A "Interconnection Design – Loss-of-Source: The interconnection shall be designed such that, with all lines initially in service, there is no normal design contingency or common mode transmission system, station, or internal plant failure which could result in a net loss of more than 1,200 MW of resources, except in the case of an increase of no more than 2% above the maximum capability, in place at the time of the original incorporation of this provision into PP5-6 in June 2016, of an existing facility that already corresponded to a loss of more than 1,200 MW of resource for a normal design contingency."

[19] For example, when ISO performed the first cluster study for interconnecting Northern Maine wind generation, the cluster size was limited to 1,200 MW despite approximately 2,000 MW of wind being in the queue in that area at the time. When ISO evaluated the transmission needs for interconnecting offshore wind as part of the NESCOE 2019 offshore wind economic study, each undersea circuit bringing power to shore was limited to a maximum of 1,200 MW.

[20] *See e.g.,* Dr. Biljana Stojkovska, *UK's analysis in planning for offshore network to meet clean energy goals* (February 2, 2021), https://newenglandenergyvision.files.wordpress.com/2021/02/bstojkovska-02-02-2021-draft.pptx (Optimized transmission planning in the United Kingdom would in some cases utilize 1,500 to 1,800-MW HVDC cables to interconnect offshore wind. Utilizing these larger circuits resulted in lower costs and reduced environmental impact by reducing the number of circuits needed).

[21] External Interface Metered Data available at https://www.iso-ne.com/isoexpress/web/reports/grid/-/tree/external- interface-metered-data.

[22] Brent Oberlin, ISO New England, Letter to Joint ISO/RTO Planning Committee (JIPC) (March 27, 2023), https://www.iso-ne.com/static-assets/documents/2023/03/jipc_loss_of_source_limit_final.pdf