

**To: Stephen J. Rourke, Vice President, System Planning, ISO New England**  
**From: NESCOE**  
**Date: April 1, 2019**  
**Subject: Request for 2019 Economic Study to Analyze Offshore Wind Integration**

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The New England States Committee on Electricity (“NESCOE”) submits the following request to ISO-New England (“ISO-NE”) for a 2019 Economic Study in accordance with Attachment K, Section 4.1(b) of the Tariff and ISO-NE’s February 13, 2019 presentation to the Planning Advisory Committee (“PAC”):

**Offshore Wind Integration Study**

NESCOE respectfully requests that ISO-NE perform a comprehensive study of the transmission system and wholesale market impacts related to increasing penetration of incremental offshore wind resources. NESCOE requests that ISO-NE analyze several scenarios for the integration of offshore wind energy by 2030 and 2035. Specifically, NESCOE would like ISO-NE and stakeholders to (1) leverage existing scenarios of 1,000 MW and 2,000 MW by 2030 from the 2015 Economic Study *Evaluation of Offshore Wind Deployment*, (2) develop a 4,000 MW scenario by 2030, and (3) consider additional scenarios beyond 2030 for 5,000 to 7,000 MW of offshore wind by 2035. The goal of the study request is to examine both transmission system issues and wholesale market impacts described further in this request.

***Transmission Analysis Objectives:*** The transmission analysis results should present conceptual transmission configurations to integrate various levels of additional offshore wind resources at different points of interconnection into New England and estimate transmission upgrade costs associated with these conceptual configurations. For example, the study could leverage and expand upon the conceptual transmission overlays developed for the 2009 Economic Study *New England 2030 Power System Study*. Where constraints are identified through economic modeling, an assessment should be undertaken to estimate the potential cost to upgrade the transmission system to alleviate such constraints. The study should also look at the economic impact of the energy being capable of being delivered at multiple locations depending on system conditions. It should be assumed that the majority of the new offshore wind resources in each scenario would be derived from the Massachusetts or Rhode Island/Massachusetts Wind Energy Areas (WEA) on the outer Continental Shelf and the minimal remaining amount of new offshore wind resources would be from a yet-to-be determined WEA in the Gulf of Maine. By identifying possible transmission constraints associated with various levels of penetration at different points of interconnection and estimating associated transmission costs, states, stakeholders, and offshore wind developers will be informed of a range of transmission solutions and design considerations that minimize transmission costs, and issues related to interconnection points that would help states fashion policies to maximize ratepayer benefits. All reasonable points of

interconnection in New England should be considered, including the prospect of interconnecting southern WEAs north of Cape Cod.

***Wholesale Markets Analysis Objectives:*** In addition to the above results, the study should analyze wholesale market impacts and power sector air emissions results for each scenario including price and other market impacts to the energy, capacity, and ancillary service markets, including capacity and reserve requirements. In 2010, ISO-NE published the *New England Wind Integration Study* (“NEWIS”) that assessed the operational effects of large-scale wind penetration in New England using statistical and simulation analysis of historical data. The findings and analytical approaches of the NEWIS study should be updated to reflect the growth of renewables since 2010 and the expected growth of offshore wind. As the market needs change, new grid opportunities may be identified to address challenges, including load following, regulation, operating reserves, and operation during low-load periods. This requested study fits within the scope and objectives of Attachment K, Section 4.1(b) of the Tariffs as it considers the potential economic benefits of relieving transmission constraints and shows the benefits of interconnecting increasing amounts of offshore wind in alternative locations. The results from this study will help facilitate cost-effective and beneficial interconnection from offshore wind resources. This will also allow the New England states to work together to determine if there is beneficial multi-state coordination on offshore wind planning that could increase benefits and reduce cost for all New England ratepayers as offshore wind resources continue to grow. Offshore wind will continue to be an important resource to help our region address winter energy security challenges and meet emission and clean energy laws and goals.

Thank you for considering this request. NESCOE looks forward to the stakeholder process to develop the study to inform offshore wind integration in New England.