VIA EMAIL

Zachary Smith
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RE: Request for Proposed Transmission Needs Being Driven by Public Policy Requirements for the 2022-2023 Transmission Planning Cycle

Dear Mr. Smith:

Based on our experience developing and interconnecting offshore wind farms around the world, Orsted Wind Power North America LLC (Ørsted) offers its below comments in response to NYISO's August 31, 2022, above referenced notice issued pursuant to Section 31.4.2 of the NYISO Open Access Transmission Tariff (OATT).

I. Introduction

Ørsted, either directly or through its affiliates, develops, constructs, owns, and operates offshore and onshore wind resources, solar farms and offshore transmission facilities. Ørsted is among the world's largest renewable energy companies and the global leader in establishing utility-scale energy projects at sea, including developing more than 28 offshore wind farms and 17 offshore transmission systems. This portfolio includes the world's first offshore wind farm (Vindeby, 1991); America's first offshore wind farm (Block Island); and the world's largest (Hornsea 2). Ørsted's current installed offshore wind capacity is 7.6GW with another 3.5GW under construction. Ørsted has been awarded about 5GW of offshore wind capacity on the east coast of the United States including two projects, South Fork Wind (132MW) and Sunrise Wind (924MW), in New York.

To support and integrate this extensive portfolio of offshore generation, Ørsted has designed and built associated transmission assets including on- and offshore substations and converter stations. We have also designed, permitted and constructed over 1,000 miles of subsea export cables; and more than 1,700 miles of subsea array cables. The subsea export cables are typically in the range of 275kV and the subsea array cables that connect the individual turbines are typically 66kV. In other words, Ørsted has more experience designing and installing offshore wind transmission facilities than any other company in the world.

With the enactment of the Climate Leadership and Community Protection Act, the supporting Accelerated Renewable Energy Growth and Community Benefits Act, and related public policy requirements, policymakers have set New York on a much-needed new course that will

significantly transform the state's power system to help address the climate crisis and provide critical economic opportunities.

Ørsted believes that offshore wind represents an unparalleled opportunity for New York to achieve the green transition of its power system. Offshore wind will be the single largest source of renewable energy in New York City (Zone J) and Long Island (Zone K) and will provide essential balance and diversity to New York's power system.

For New York State to achieve its goals, however, it will need to address unique regional challenges and meet significant outstanding transmission needs. A primary difficulty faced by the NYISO is maintaining reliability given existing and future transmission constraints into Zone J and Zone K. These two zones are characterized by high electrical loads, geographical features (e.g., surrounding bodies of water) and severely limited supply of real estate that is available, zoned and suitable for electricity generation, interconnection and transmission infrastructure (such as high-voltage direct current (HVDC) converter stations, substations, cable routing, etc.), all of which only exacerbates the challenges of maintaining reliability and integrating large volumes of renewable power.

There are substantial remaining offshore wind energy-related transmission needs driven by "Public Policy Requirements,"[1] as defined in OATT Section 31.1.1. To ensure that these needs are addressed in a timely manner, the NYISO should solicit and evaluate proposed transmission solutions as part of its 2022-2022 Transmission Planning Cycle.

In the following comments, Ørsted outlines several Public Policy Requirements driving the need to upgrade and update the state's bulk transmission system, offers proposed criteria for the evaluation of transmission solutions to meet public policy needs, and provides a description of how the construction of transmission solutions will fulfill the identified public policy needs.

II. Comments

A. Public Policy Requirements Driving the Need for Transmission

Spurred by state goals, customer demand and technological advances, renewable resources comprise an increasing share of the fuel mix for electric generation. Recent federal and state activity will continue and accelerate this trend. Significant transmission construction will be needed to ensure that this energy can reliably be delivered to customers.

As noted below, there are several related Public Policy Requirements that are driving the need for transmission upgrades in New York State. All of these requirements urgently necessitate upgrading the state's bulk power transmission facilities to accommodate the projected increases in overall electricity consumption, an increase in renewable energy generation, and broader

[1] As defined in OATT Section 31.1.1, a Public Policy Requirement is "[a] federal or New York State statute or regulation, including a [New York State Public Service Commission ("NYPSC")] order adopting a rule or regulation subject to and in accordance with the State Administrative Procedure Act, any successor statute, or any duly enacted law or regulation passed by a local governmental entity in New York State, that may relate to transmission planning on the [New York State Bulk Power Transmission Facilities]."

related changes to the topology of electricity generation and transmission across New York State.

1. The Climate Leadership and Community Protection Act (CLCPA) was signed into law in July 2019. Among its many provisions, the CLCPA mandates 70% of electricity from renewable energy by 2030, offshore wind generation of at least 9,000 MW by 2035, 100% carbon-free electricity by 2040 and an 85% reduction in economywide greenhouse gas (GHG) emissions from 1990 levels by 2050. In addition, the integration analysis within the Draft Scoping Plan that is statutorily required by the CLCPA estimates that, in order to meet the CLCPA's GHG emission reduction and other Public Policy Requirements, "Even with aggressively managed load, electric consumption doubles and peak load nearly doubles by 2050, and New York becomes a winter peaking system by 2035, with offshore wind of around 20 gigawatts (GW), solar of around 60 GW, and 4- and 8-hour battery storage of around 20 GW by 2050."[2] The CLCPA's requirements cannot be met without substantial ongoing transmission upgrades.

2. The Accelerated Renewable Energy Growth and Community Benefits Act (AREGCBA) was signed into law in April 2020. The AREGCBA included provisions to expedite the regulatory review for the siting of major renewable energy facilities and transmission infrastructure necessary to meet the CLCPA targets, in recognition of the importance of these facilities and their ability to lower carbon emissions. The AREGCBA specifically stated that, "A public policy purpose would be served and the interests of the people of the state would be advanced by directing the public service commission to make a comprehensive study of the state's power grid to identify distribution and transmission infrastructure needed to enable the state to meet the CLCPA targets, and based on such study, develop definitive plans that: (a) provide for the timely development of local transmission and distribution system upgrades by the state's regulated utilities and the Long Island power authority; (b) identify bulk transmission investments that should be undertaken, including projects that should be undertaken immediately and on an expedited basis in cooperation with the power authority of the state of New York; and (c) otherwise advance the policies of this act."[3]

3. The Inflation Reduction Act (IRA) was signed into law in August 2022 by President Biden. Among its other provisions, the IRA included significant tax credits that will increase the amount of renewable energy generated from land-based wind, offshore wind and solar energy, both nationally and within New York State. Related to the IRA, the Biden-Harris administration has also enacted other legislation that will similarly increase renewable energy generation and transmission needs, such as the Infrastructure Investment and Jobs Act, as well as advanced several major deployment goals related to offshore wind energy generation that will, as they are implemented, be expected to coincide with additional Public Policy Requirements. Specifically, President Biden has

[2] Draft Climate Action Council Scoping Plan (2021), page 74. Accessed at: https://climate.ny.gov/-/media/Project/Climate/Files/Draft-Scoping-Plan.pdf,

[3] New York State Fiscal Year 2020-2021 Budget, Article VII Language Bills, Transportation, Economic Development and Environmental Conservation, Part JJJ. Accessed at: http://public.leginfo.state.ny.us/.

set a goal of deploying 30 GW of offshore wind by 2030, and to deploy 15 GW of floating offshore wind capacity by 2035.[4]

Altogether, these Public Policy Requirements will continue to bring large amounts of renewable energy generation, including large offshore wind projects, to areas of the grid that are currently not capable of efficiently transmitting and distributing the associated electricity.

B. Proposed Criteria for Evaluation of Transmission Solutions to Meet Public Policy Needs

As noted above, additional transmission solutions will be needed to accommodate New York's current and future offshore wind goals. The following elements should be included as criteria in the evaluation of any future offshore wind-related Public Policy Transmission Needs (PPTN) transmission solution proposals. A transmission solution (or multiple solutions) should:

1. Allow for at least 9GW of offshore wind injection capacity, with the flexibility to expand to the 20GW that is estimated to be required to meet the CLCPA's GHG emission reduction mandate under the Draft Scoping Plan, cited above. A comprehensively-sized capacity level will be necessary now given the challenges associated with the siting and construction of cables into NYISO zones J and K, and the findings of the aforementioned Climate Action Council Draft Scoping Plan in relation to the CLCPA's statutory GHG emission reduction obligations.

2. Include sufficient physical onshore space for which site control has been secured or for which a viable pathway to attaining site control has been demonstrated to accommodate the construction of HVDC converter stations. In our experience, a typical 1200MW HVDC converter station requires about 5-8 acres. Ideally, the location of these HVDC converter stations will be near existing points of interconnection and access from the ocean.

3. Optimize the utilization of limited cable routes into and through the New York harbor that have been studied and identified in the NYSERDA Offshore Wind Cable Corridor Constraints Assessment.

4. Be able to demonstrate resiliency benefits to the grid. These include the increased ability for the grid to withstand extreme weather events and other generation and transmission contingencies.

5. Reduce congestion and increase system reliability. In addition, apply preferences to projects that possess the ability to add or later be upgraded to enable the use of storage systems and flexible interregional transmission networks while injecting new offshore wind power in the system.

[4] FACT SHEET: Biden-Harris Administration Announces New Actions to Expand U.S. Offshore Wind Energy. Accessed at: https://www.whitehouse.gov/briefing-room/statements-releases/2022/09/15/fact-sheet-biden-harris-administration-announces-new-actions-to-expand-u-s-offshore-wind-energy/

6. Increase the transfer capability between NYISO zones J and I, H, G, E and F.
7. Facilitate the implementation of a meshed offshore grid through effective planning and the use of advanced grid technologies.

8. Be undertaken by developers with the requisite experience, financial resources, and access to state-of-the-art technology to complete and deliver these projects.

9. Avoids disproportionately harming disadvantaged communities.

C. Description of How the Construction of Transmission will Fulfill the Identified Public Policy Needs

The construction of significant new transmission infrastructure in or near the New York harbor will be necessary in order for the State to meet its existing statutory obligation of at least 9GW of offshore wind, not to mention the possibility of expanding that obligation to 20GW to meet the CLCPA's GHG emission reduction requirements.

Specifically, in order to accommodate the significant estimated increases in offshore wind energy generation and regional transmission needs, New York State will need to effectuate upgrades to its bulk transmission system in the form of upgrades to points of interconnection, the addition of new HVDC converter stations, the addition of new substations, the routing of substantial new electrical cabling, and other infrastructure improvements to ensure the most cost-effective and resilient incorporation of offshore wind energy into the grid with the lowest possible rates of renewable energy curtailment across the state.

As initial measures to begin to address these transmission needs, Ørsted appreciates the leadership of the PSC and the NYISO and all of the efforts that are going into existing PPTN projects such as the offshore wind related zone J/K PPTN process currently underway. Ørsted is also appreciative of the PSC's willingness to explore the other initiatives such as the Con Edison Clean Energy Hub. However, as we have indicated in previous comments filed with the PSC, Ørsted firmly believes that neither the Long Island Offshore Wind Export PPTN nor the Con Edison Clean Energy Hub will fully solve the transmission challenges associated with developing at least 9GW of offshore wind, let alone the 20GW of offshore wind that are estimated to ultimately be necessary under the CLCPA in accordance with the Draft Scoping Plan.[5]

For these and other reasons, Ørsted is strongly supportive of using the 2022-2023 NYISO PPTN cycle to solicit and evaluate further potential transmission solutions proposed by developers in addition to those being considered as part of the Long Island Offshore Wind Export PPTN. These developer proposals likely would and should include Con Edison's Clean Energy Hub, as well as both complementary and mutually exclusive proposals, and the

[5] See New York State Public Service Commission Matter 20-00905, Case 20-E-0197, Comments Sr. No. 1, 4. Accessible at: https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=20-E-0197.

NYISO Board of Directors would then be able to select the most cost-effective solution(s) to meet the PPTN and award such project(s) cost recovery under the OATT.

III. Conclusion

New York's generation and transmission needs are driven by Public Policy Requirements. Meeting these needs in a timely, reliable cost-effective manner requires the NYISO to solicit and evaluate transmission solutions in its 2022-2023 Transmission Planning Cycle. As discussed herein, Ørsted offers suggested criteria to be used in evaluation of these projects.

In addition, the benefits of procuring robust and far-sighted projects to meet these transmission needs extend beyond meeting the goals established by Public Policy Requirements. Transmission will deliver clean energy to customers, improve grid efficiency and promote reliability and resilience of the grid. Further, increasing the capacity of the state's bulk transmission system to accommodate offshore wind and other renewable energy will also directly contribute to New York's environmental quality, economic growth, environmental justice, and energy security. Thus, Ørsted encourages the NYISO to act now to solicit and evaluate transmission solutions in its upcoming planning cycle.

Sincerely,

/s/ Thomas Riding

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