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March 12, 2021

By Electronic Mail (Board.Secretary@bpu.nj.gov)
Honorable Aida Camacho-Welch, Secretary
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Fl.
P.O. Box 350
Trenton, NJ 08625-0350

Re: New Jersey Division of Rate Counsel Comments
On Levitan's Offshore Wind Transmission Study
BPU Docket No. QO20100630

Dear Secretary Camacho-Welch:

Please accept for filing the attached comments being submitted on behalf of the New Jersey Division of Rate Counsel ("Rate Counsel") in connection with the above-referenced matter. These comments are being submitted electronically in accordance with the Board's January 26, 2021 Notice in this matter. Copies of Rate Counsel's comments are being provided to all parties on the service list by electronic mail only.

Please acknowledge receipt of these comments.

Thank you for our consideration and attention to this matter.

Respectfully submitted,

STEFANIE A. BRAND
Director, Division of Rate Counsel

By: */s/ Henry M. Ogden*
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Enclosure

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STATE OF NEW JERSEY

BEFORE THE BOARD OF PUBLIC UTILITIES

In the Matter of Offshore Wind Transmission	**)** **)**	**Docket No. QO20100630**

COMMENTS OF THE NEW JERSEY DIVISON OF RATE COUNSEL ON LEVITAN'S OFFSHORE WIND TRANMISSION STUDY ON BEHALF OF THE NEW JERSEY BOARD OF PUBLIC UTILITIES

March 12, 2021

INTRODUCTION

The Division of Rate Counsel ("Rate Counsel") thanks the Board of Public Utilities ("Board" or "BPU") for the opportunity to provide comments on the Levitan Report that provides a comparison of options for New Jersey offshore wind ("OSW") transmission. The offshore wind transmission proceeding was initiated by a Board Order dated November 18, 2020, in which the Board formally requested that PJM incorporate New Jersey's offshore wind goals into the PJM regional transmission planning process ("RTEP") through the State Agreement Approach ("SAA").[1]

In its Order, the Board stated it "takes this action to confirm the State's commitment to the development of offshore wind generation, in a manner that may lead to more efficient and cost-effective incorporation of offshore." However, the Board also referenced concerns related to the potential for commercial risk that may arise as a result of the separation of generation and transmission functions of offshore wind development. Thus, the Board directed its Staff to examine these issues and make recommendations to minimize risk to participating generation developers, transmission developers, and ratepayers.

Board Staff engaged Levitan & Associates, Inc. ("L&A" or "Levitan") to prepare a Transmission Study ("Study") to evaluate the range of commercial, technical, environmental, and operational advantages and disadvantages of OSW transmission options. Staff also held a Technical Conference on February 26, 2021 with discussions focused on: (1) various sources for potential pre-commercial operation delays under a separated transmission and generation approach, and the additional risks created by these potential delays; (2) the extent to which coordinated transmission planning has the potential to minimize curtailment risk of OSW

[1] Docket No. QO20100630, Order dated November 18, 2020.

generators; and (3) the risk profile of operating OSW generation and coordinated transmission separately.

Rate Counsel applauds the efforts of Staff and Levitan. The Levitan OSW Transmission Study is a thorough review of stakeholder comments, Levitan's own independent research and analysis of other third-party studies. The report provides a solid foundation from which the Board and New Jersey stakeholders can move forward in its efforts to find the best, most efficient, and cost-effective transmission solution for New Jersey OSW.

COMMENTS

Offshore Transmission Framework

Initially, the OSW Transmission Study set out to compare and evaluate two options for OSW transmission system design. The first option, radial export cables, use high voltage technology to transmit generation from individual OSW projects to a single point of interconnection ("POI"). Essentially, each OSW project is separately tied to its own interconnection point on shore. A radial export cable offers the most straight-forward direct connection, wherein individual generation developers are responsible for all aspects (design, permitting, construction, ownership, and operation) of getting their power to the PJM transmission grid. Generation developers are also responsible for all interconnection costs. Radial export cables may offer the lowest risk to ratepayers, as OSW developers are responsible for coordination, timing and performance. In addition, radial export cables are the most widely used OSW transmission format in Europe.[2]

The second option is an ocean grid, or network connection, where multiple wind farms in the same area are connected through an offshore network to one or several onshore POIs. An

[2] Levitan OSW Report, p. 2.

ocean grid would likely be built in one construction program in advance of future OSW projects. Supporters of ocean grids cite efficient integration, competition among generators, reduced wholesale energy costs, minimized environmental impacts and more control over transmission costs. [3] While it may seem more efficient to have multiple projects connected to one network, the Study does note several setbacks to this format, not the least of which is higher ratepayer risk in terms of performance, business structure, cost recovery for underutilized or stranded segments and coordination in permitting. Additionally, there is little to no experience with ocean grids in Europe or elsewhere.

There are varying positions on the capital cost of radial export cables versus an ocean grid. As noted in the Study, OSW developers believe that radial export cables are less expensive than ocean grids, and that there are significant synergies and cost savings from integrating transmission with an OSW project. Proponents of the ocean grid claim lower capital costs due to a single integrated construction scope, instead of multiple separate scopes of work for radial export cables, as well as from optimizing the design of the onshore transmission portion.[4] However, OSW developers expressed concern about actual ocean grid benefits, coordination, timing, and project-on-project risk.[5]

> Some pointed out that the underlying transmission problem is the onshore grid and identified potential problems and risks of any future-proofing scheme. Many were strongly in favor of developing shoreline POIs connected to New Jersey's 500 kV backbone and they were split on the concept of sharing an offshore radial export cable corridor. EnBW [Energie-Baden-Württemberg AG] stressed the importance of regulatory certainty as "…a requirement for investor confidence and in the case of an OSW specific transmission procurement it cannot be stressed enough that clarity in all areas of this matter must be a focus…"[6]

[3] Levitan OSW Report, p. 10.
[4] Levitan OSW Report, p. 38.
[5] Levitan OSW Report, p. 13.
[6] Levitan OSW Report, p. 13.

In its analysis, Levitan has developed and offered a third possible transmission concept: a "power corridor." The Study defines a power corridor as a transmission framework where multiple OSW projects could deliver to a single POI via multiple high voltage cables installed in a single right-of-way ("ROW"). Like an ocean grid, the power corridor would be built in one construction program in advance of the OSW project commercial operation dates via a Board procurement or the SAA.[7] But, each OSW project would have its own cable within the corridor. A power corridor would extend from New Jersey's north-south 500 kV backbone system, to the coast or to a new offshore substation. A power corridor could allow for less costly expansion as substations and converters could be added offshore when needed for new OSW projects, which could limit ratepayer exposure to underutilized or stranded segments. And, importantly, a power corridor would allow for competitive procurement and hopefully provide cost benefits to ratepayers.

Rate Counsel agrees that the concept of a power corridor should be explored further. But, Rate Counsel also agrees and emphasizes Levitan's recommendation that "[i]n the final analysis, the Board will have to consider the cost, performance, environmental impact, ratepayer risk, and other characteristics of each offshore transmission option."[8] Competitive procurement should provide efficient and cost-effective solutions to not only support New Jersey's OSW goals, but also limit ratepayer exposure.

[7] Levitan OSW Report, p. 1.
[8] Levitan OSW Report, p. 4.