

**To:** NEPOOL Markets Committee

**From:** Internal Market Monitor

**Date:** November 9, 2020

**Subject:** IMM Position on the RENEW Proposal for the Offer Review Trigger Price for Off Shore Wind

The Internal Market Monitor (IMM) submits these initial comments on the RENEW proposal for an Offer Review Trigger Price (ORTP) for Off Shore Wind (OSW) projects. There are two aspects to this memo:

- RENEW's use of a top-down method to infer a capital cost from contract rates is not an accurate means of establishing capital cost and the resulting ORTP value as compared to the bottom-up approach taken by the ISO and prescribed by the Tariff.
- Certain aspects of the RENEW model and assumptions we disagree with, and which result in a lower implied capital cost.

As discussed below, the IMM opposes RENEW's calculation of the ORTP for OSW as contrary to the Tariff methodology.

Tariff Section III.A.21.1.2.(b) prescribes the methodology for calculating a relevant ORTP as follows: "Capital costs, expected non-capacity revenues and operating costs, assumptions regarding depreciation, taxes and discount rate are input a capital budgeting model which is used to calculate the break-even contribution required from the Forward Capacity Market to yield a discounted cash flow with a net present value of zero for the project." Significantly, the "capital costs" of a project are a separate and independent input into the capital budgeting model that is unassociated with capacity market revenues. Further, "[t]he model looks at 20 years of real-dollar cash flows discounted at a rate (Weighted Average Cost of Capital) consistent with that expected of a project whose output is under contract (i.e., a contract negotiated at arm's length between two unrelated parties)." *Id.*

We believe the analysis underlying the RENEW proposal does not accurately represent the capital cost of these projects and contains aspects that are impactful to the result that only benefit RENEW and its members. Setting the ORTP to \$0/kW-month for any potentially subsidized policy resource class could have a profound price suppressing impact on the FCM if done in error.

The RENEW proposal does not use an estimate of capital costs that is constructed using actual capital costs associated with OSW projects. Rather, their approach solves for the "capital cost" needed in order to breakeven using a discounted cash flow model given assumptions regarding future cash flows.<sup>1</sup>

---

<sup>1</sup> Their underlying model derives an implied capital expenditure for OSW projects using publicly available PPA pricing. In essence, the model uses a discounted cash flow model and backs out an implied

The result of this calculation provides an inferred capital cost value that is not based on actual cost data, and is wholly dependent on the accuracy of all inputs. Notably, the inferred value for capital cost can change materially with changes in the assumed parameters used in the model. Yet a true estimate of capital cost would not depend on values of other parameters in the model (such as useful life, energy and REC prices, etc.). In fact, the IMM has evaluated the sensitivity of the discounted cash flow model and found that the offer floor price can be reduced by as much as 45% by making small adjustments in a number of the input variables to that equation. The discounted cash flow model is sensitive to the inputs and, therefore, the inferred capital cost value will be too.

The approach taken by the ISO (by way of Concentric Energy Advisors (CEA) and Mott MacDonald (MM)) is a direct estimation of capital cost. The approach uses actual capital cost data, can be scrutinized in its components, and the value does not vary with assumed model parameters. While the details were not made available to NEPOOL for confidential/commercial sensitivity reasons, they were scrutinized by MM, CEA, and the ISO – none of which has a financial or other interest in having a higher or lower capital cost value other than one that accurately represents the capital cost of a new OSW project in New England.

Several aspects of the underlying calculations either we disagree with or are not transparent and, therefore, we are unable to understand them.

Three aspects with which we disagree are as follows:

- The model apparently does not fully consider Pay for Performance revenues which are expected to be material in future years (ISO assumed Performance Payment Rate of \$9,307/MWh as compared to their model using \$3,500/MWh through May 2024 and \$5,455/MWh from June 2025 forward).
- Their model uses an assumed Weighted Average Cost of Capital of 7.29%. By comparison, the discount rate used in the CEA analysis (which does not represent subsidized PPA-backed revenue streams) is 6.37%. This suggests that at a minimum, the discount rate assumed in the RENEW proposal should be at least as low as 6.37%. It is also reasonable to assume that with a state contract-backed revenue streams, an even lower discount rate would be appropriate to accurately infer a capital cost from a subsidized PPA rate.
- The revenue assumptions used in the final 5 years of the analysis are likely understated as they do not appear to include the value of Renewable Energy Credits that would be available to the developer.

---

initial capital cost that could be recovered by the revenue expected from the various PPA contracts, given other assumptions about ongoing operating costs, term, discount rate, and other revenue. The model itself performs a break-even analysis that solves for the implied capital expenditures required to yield a discounted cash flow with a net present value of zero for each project.

We also note that setting the ORTP too low (below a reasonable unsubsidized commercial cost basis) carries with it the potential for significant market harm. However, the ORTP value for the OSW technology does not hinder a market participant's ability to challenge the ORTP to justify a lower offer floor price. All costs and revenues will need to be adequately documented and supported and presented as a merchant project. All available subsidies and revenue streams will also need to be identified at the time of submission. The IMM will perform its review of the project and consult with the project developer prior to giving the final offer floor price value.