

ACE NY, United, and NYOWA COMMENTS ON LSRRFI23-1, NYSERDA RFI re: Modifying Tier 1 and Offshore Wind Contracts to Account For NYISO Capacity Accreditation Rule Changes

Feb 17, 2023

I. Introduction and Summary

The Alliance for Clean Energy New York (ACE NY), Advanced Energy United (United) and the New York Offshore Wind Alliance (NYOWA) hereby submit these Comments in response to LSRRFI23-1, a New York Energy Research and Development Authority (NYSERDA) Request for Information (RFI) regarding modifying Tier 1 and Offshore Wind Contracts in response to changes in the tariff of the New York Independent System Operator (NYISO) regarding capacity accreditation for renewable energy resources.

The RFI solicited responses to a proposal to modify the formula for the Reference Capacity Price for future NYSERDA solicitations, for existing NYSERDA contracts, and for contracts to be awarded in response to the 2022 solicitations for offshore wind and for Tier 1 resources. It also included a proposal to modify the strike prices in existing NYSERDA contracts.

While ACE NY, United, and NYOWA support and appreciate the proposal to modify the Reference Capacity Price formula for all existing and new contracts, we believe that the approach to modifying strike prices is overly complex and, in some instances, does not achieve the aim of holding steady reasonably expected revenues. Accordingly, in these Comments, we suggest an alternative and simpler approach to modifying the strike prices in existing contracts. Further, we are not supportive of all of the default UPFs proposed by NYSERDA, because in many cases they do not, in fact, reflect the amount of accreditation reasonably expected by the projects over their contract lifetimes at the time of bid award. Therefore, in these Comments, we also suggest an alternative approach for certain of the default UPFs.

ACE NY, United, and NYOWA, are referred to collectively in these comments as the “advanced energy companies,” “our members,” “we,” or “our.”

ACE NY is a member-based organization with a mission of promoting the use of clean, renewable electricity technologies and energy efficiency in New York to increase energy diversity and security, boost economic development, improve public health, and reduce air pollution. ACE NY’s diverse membership includes companies engaged in the full range of clean energy technologies as well as consultants, academic and financial institutions, and not-for-profit organizations interested in their mission.

Advanced Energy United is a national association of businesses that are making the energy we use secure, clean, and affordable. United works to accelerate the move to 100% clean energy and electrified transportation in the U.S. Advanced energy encompasses a broad range of products and services that constitute the best available technologies for meeting our energy needs today and tomorrow. These include energy efficiency, demand response, energy storage, solar, wind, hydro, nuclear, electric vehicles, and the smart grid. United represents more than 100 companies in the \$238 billion U.S. advanced energy industry, which employs 3.3 million U.S. workers, including 157,000 individuals in the Empire State.

The New York Offshore Wind Alliance works to ensure the timely and responsible development of offshore wind in the Atlantic Ocean off New York State's coast, at a level necessary to contribute to New York's mandate for a 100% emissions-free grid by 2040. NYOWA advocates for policies that achieve this offshore wind power development and protect coastal and marine ecosystems, and will strive to create in-State, quality, family-sustaining jobs, and reinvestment in New York's disadvantaged communities.

II. Proposal Related to Future RFPs

As described in *Section 4: NYSERDA's Proposed Revised Reference Capacity Price Formula for Future RFPs*, NYSERDA is proposing to change the Reference Capacity Price formula in future Tier 1 and Offshore Wind solicitations to use a relative UCAP production factor rather than an as-bid¹ fixed UCAP production factor (UPF), and to no longer include the Average Peak Load Window (PLW) Capacity Factor of the Representative Unit in the formula. This is Formula 3 in Section 4. Further, the Relative UCAP Production Factor (rUCAP) would be 1, although NYSERDA states an openness for using rUCAP values less than one.

In response, **we are supportive of Formula 3 in Section 4 being used in future (O)REC RFPs**. Further, we are supportive of the relative UCAP Production Factor being 1. While there certainly will be reasons for individual projects to use a rUCAP that is different than 1, in the interest of simplicity, we support the use of a rUCAP of 1 in all cases.

III. Proposal Related to Existing Contracts

In *Section 5: NYSERDA's Proposed Approach for Existing Index (O)REC Contracts*, NYSERDA describes a multi-step process to amend the existing contracts to account for the capacity accreditation market changes.

First, for projects that bid a UPF different than the default value, the Strike Price would be adjusted through two steps, in an attempt to adjust for lost revenue resulting from capacity accreditation changes that would have occurred if the bid UPF had been the default value. In short, Adjustment 1 would be the difference between the projected, levelized Reference Capacity Price at the default UCAP Factor and the projected, levelized Reference Capacity Price for the bid UPF. Adjustment 2 would be calculated as the difference between the projected change in capacity related levelized net REC price and the projected change in the capacity market revenue. Both adjustments would be made to each strike price.

The default values proposed to be used in these two adjustments would differ for wind, solar, offshore wind, and hydroelectric, and are listed on page 15-16.

This results in Formula 6:

¹ For simplicity, we refer to "bid" UPFs to include both the as-bid UPFs as well as VCO UPFs.

$$\text{Strike Price}_{\text{Rev}} = \text{Strike Price}_{\text{bid}} - \left((RCP_{\text{Bid,preCA}} - RCP_{\text{postCA}}) + (W_{\text{bid}} \times CMRE_{\text{Bid,PostCA}}) + (1-W_{\text{bid}}) \times CMRE_{\text{Default,PostCA}}) - W_{\text{bid}} \times CMRE_{\text{Bid,PreCA}} + (1-W_{\text{bid}}) \times CMRE_{\text{Default,PreCA}} \right)$$

Formula 6 has two main terms that can be described as follows:

$$\text{Strike Price}_{\text{Rev}} = \text{Strike Price}_{\text{bid}} - ((\text{Term 1}) + (\text{Term 2}))$$

Term 1 simply removes the levelized pre-capacity accreditation Reference Capacity Price of each project using their bid UPF and adds the post-capacity accreditation levelized Reference Capacity Price using the rUCAP. If Term 2 were to be set to zero, Term 1, combined with replacing the existing reference capacity price formula with Formula 3, would cause the total revenues of each project to be exactly the difference in merchant capacity market revenues each project experiences as a result of the capacity accreditation changes, *irrespective of that Project's strike price, bid UPF, or any other variable*. In other words, Term 1 is an adjustment so that the net revenue of each project is reduced to the difference in capacity market revenues that project experiences solely due to the capacity accreditation changes. Please see Section 1 of the Appendix for further details.

Term 2 aims to capture the difference in reasonable capacity market revenue expectations of a particular project due to capacity accreditation and is dependent on a project's bid UPF, among other factors. Term 2 is discussed in more detail below.

Term 1 and Term 2, combined with replacing the reference capacity price with Formula 3, aims to hold steady the total amount of total revenue reasonably expected to be achieved by the project.

Reasonable Revenue Expectations

What constitutes revenue reasonably expected to be achieved by the projects in the capacity market can potentially be determined from a number of perspectives. NYSREDA in the RFI has taken two such perspectives into account: UPF bid by the Suppliers, and a "default" production factor that NYSREDA has triangulated using a number of data points including the first year default values in the ICAP Manual, the UCAP factors the contracted projects would achieve under the ICAP Manual peak load windows using the 8760s and 12x24s suppliers provided at the time of bid, and the average of the UPFs under the existing contracts, among other factors. The two perspectives can be seen in Term 2 of Formula 6:

$$\text{Strike Price}_{\text{Rev}} = \text{Strike Price}_{\text{bid}} - ((\text{Term 1}) + (\text{Term 2})), \text{ where}$$

$$\text{Term 2} = (W_{\text{bid}} \times CMRE_{\text{Bid,PostCA}}) + ((1-W_{\text{bid}}) \times CMRE_{\text{Default,PostCA}}) - (W_{\text{bid}} \times CMRE_{\text{Bid,PreCA}}) + ((1-W_{\text{bid}}) \times CMRE_{\text{Default,PreCA}})$$

Term 2 is the weighted average of two perspectives on what constitutes reasonable capacity market revenue expectations:

- (a) $CMRE_{\text{Bid}}$ - The difference in merchant capacity market revenues a project would receive before and after capacity accreditation rule changes, if its UCAP factor calculated by the NYISO under the ICAP manual were equal to its bid UPF; and

- (b) $CMRE_{Default}$ - The difference in merchant capacity market revenues a project would receive before and after the capacity accreditation changes if its UCAP factor calculated by the NYISO under the ICAP Manual were equal to the default factor determined by NYSERDA.

NYSERDA has proposed a weighting of 0.5 for these two approaches.

We support the use of Formula 3 in the current portfolio of awarded contracts to account for the capacity accreditation rule changes at the NYISO. We also are appreciative of and support the goal that adjustments to the Strike Price should hold steady the total amount of total revenue reasonably expected to be achieved by the project. However, we are not supportive of the proposed approach to adjusting strike prices described in Section 5, and we are not supportive of the proposed default UPFs proposed by NYSERDA, because in many cases they do not, in fact, reflect the amount of accreditation reasonably expected by the projects over their contract lifetimes at the time of bid award. We have provided more discussion and have made proposals on how the goal can be met in the answers to the Questions to Stakeholders, below.

IV. Proposal Related to Currently Open Solicitations

In *Section 6: NYSERDA's Proposed Approach for ORECRFP22-1 and RESRFP22-1 Index (O)REC Contracts*, NYSERDA proposes to offer an adjustment to strike prices to projects awarded contracts under ORECRFP22-1 and RESRFP22-1 and to replace the Reference Capacity Price formulas in these RFPs with the formula (that uses the rUPF of 1) herein proposed for existing contracts and for future solicitations. NYSERDA states that using the same formula for all will “optimize settlement administration.” In the case of projects to be awarded contracts under these two RFPs, the strike price adjustment would only use Adjustment 1 described in Section 5 and would in any case be voluntary. That is, NYSERDA will offer the strike price adjustment and change in the RCP formula, and this offer could be accepted or rejected.

While **we are generally supportive of this approach**, it is important to know that because bidders do not have sufficient transparency into how NYSERDA will make this Adjustment 1, *i.e.*, will not know the forward curves that NYSERDA uses for market revenue calculations, the bidder will not really know how it will change. The statement by NYSERDA in the RFI, “(1) Proposers will know in advance how NYSERDA currently intends for Index (O)REC Contracts to be offered to be modified and can therefore select UPFs accordingly” is not exactly accurate.

V. Responses to RFI's Questions

ACE NY, United, and NYOWA have the following responses to *Section 8. Questions to Stakeholders*:

- 1. Are there any compelling reasons to allow Proposers in future RFPs to bid an rUPF value less than 1 (reducing exposure to Representative Unit performance)?**

We support the use of an rUPF value of 1 for all proposers in future RFPs.

- 2. Are there any compelling reasons to allow Proposers in future RFPs to bid an rUPF value greater than 1 (increasing exposure to Representative Unit performance)?**

We support the use of an rUPF value of 1 for all proposers in future RFPs.

- 3. If Proposers in future RFPs are able to bid rUPF values, should they bid a single value or two seasonal values (winter and summer)?**

We support the use of an rUPF value of 1 for all proposers in future RFPs.

- 4. How should NYSERDA weight the as-bid/VCO UPFs and default UPFs for existing Index (O)REC Contracts to reasonable estimate Suppliers' expected capacity market performance? Please provide a justification for this weighting if different than NYSERDA's proposed 50% weighting.**

Bid UPFs and Formula 6

After discussing with our members, we have found that suppliers had varying expectations regarding capacity market revenue at the time of bids/conversions. This includes short-term performance expectations under the current ICAP Manual, accounting for project-specific parameters, as well as longer-term expectations regarding potential re-setting of Peak Load Windows and potential capacity market reforms.

For some Suppliers, their bid/VCO UPFs represented their genuine capacity market revenue expectations, while for others, it represented the amount of the hedge they wanted to avail themselves of, whether due to concerns that its static nature may introduce more risk than it mitigates, or other factors. Therefore, the bid/VCO UPFs do not necessarily reflect Suppliers' merchant market revenue expectations and in some cases are less than expectations.

Suppliers in the former category tended to have higher UPFs and RCPs that were more in line with their merchant revenue expectations, while suppliers in the latter category had lower UPFs and RCPs well below their merchant revenue expectations. As further discussed in our answer to Question 5, we note that the UCAP values calculated by the ICAP Manual significantly exceed the average bid UPF factors. This indicates that the bid UPFs for projects with low UPFs are a poor proxy for contract holders' capacity market expectations.

Moreover, Formula 6 compared merchant capacity market revenues using the bid UPF for both pre- and post-capacity accreditation rule changes, implying that suppliers' expectations of merchant revenue post-capacity accreditation rule changes are based on their bid UPFs. However, bidders could not have known about capacity accreditation changes at the time of bid. Therefore, we do not think that using this as a point of comparison is helpful in elucidating suppliers' revenue expectations.

Therefore, we believe that applying the bid UPFs in the Strike Price adjustment formula, as proposed by NYSERDA in Formula 6, does not achieve the aim of ensuring that reasonably expected revenues are maintained.

Simply put: For projects with low UPFs, the UPFs do not represent suppliers' capacity market revenue expectations and should not be used to evaluate what their reasonable capacity market expectations were. For projects with high UPFs, these are likely to track Supplier's genuine capacity market revenue

expectations, as there is no apparent benefit for Suppliers to have bid beyond their revenue expectations.

Issues with NYSERDA's Proposed Formula 6 Approach

NYSERDA's proposed approach in Section 5 has three fundamental issues: it would undermine the aggregate revenues that projects that bid their genuine UPF expectations would expect to receive; it would not make whole those projects that did not elect to take some or all of the capacity hedge at the time of the bid; and it would rely upon forecasts of future values of CAF values, which are uncertain and prone to error.

For suppliers that bid their genuine levelized UPF expectations, in conjunction with the adjustment to the RCP term proposed in Formula 3, the strike price adjustment currently proposed would cause project revenue expectations to deviate from those Suppliers' overall revenue expectations prior to capacity accreditation reform. In these cases, the approach that would best maintain revenue expectations before and after the change in law would be to simply replace the existing RCP with Formula 3 and not to make any strike price adjustment.

For projects that elected not to take all or a part of the capacity market hedge and that bid a lower strike price accordingly, not adjusting their strike prices would lead to revenues that are significantly below their overall revenue expectations prior to the change in law because UPFs do not represent Suppliers' merchant capacity market expectations. In such cases, projects require a strike price adjustment and would not be made whole by the RCP term adjustment alone.

Finally, NYSERDA's proposed approach would make permanent adjustments to strike prices today based on estimated future capacity revenue expectations that rely upon a forecast of CAF values over the contract term. There is a high degree of uncertainty around these forecasts, which could vary widely depending on the rate of renewable deployment and the generation supply mix in the NYISO. Furthermore, the RFI also acknowledges that CAF values cannot currently be forecasted because some aspects of the NYISO methodology are still unresolved. To the extent actual future values of the CAF vary from the forecasts used to adjust strike prices, either ratepayers will be overpaying or developers will be undercompensated for capacity accreditation as a result of this adjustment. ACE NY's approach described below would not rely upon forecasts of CAF values and therefore would avoid this potential for error.

Potential Revisions to NYSERDA's Suggested Approach

We propose a two-step process that aligns with NYSERDA's RFI approach but allows for adjustments to make projects whole in light of varying contractual conditions. The first step is an optional UPF and strike price adjustment, which projects may exercise to make a one-time adjustment to their UPFs and strike prices up to the default UPF in a revenue-neutral way in terms of expected LNRC.

This adjustment would allow projects that did not avail themselves of the full capacity hedge to adjust their UPFs and strike prices upward to the default UPF to reflect reasonable capacity market expectations prior to capacity accreditation reform, while maintaining revenue expectations for projects that bid in accordance with their accreditation expectations. The optional adjustment formula would be the same as Formula 4 in the RFI, and the levelized price would be based on capacity

market price forecasts used to evaluate relevant bids/conversions of each respective vintage. After making this adjustment, the RCP term of all contracts would be replaced by Formula 3 of Section 4.

The optional adjustment would be Formula 4:

$$\text{Adjustment 1} = \text{RCP}_{\text{Default,preCA}} - \text{RCP}_{\text{bid,preCA}}$$

$$\text{Strike PriceRev A1} = \text{Strike PriceBid} + \text{Adjustment 1}$$

$\text{RCP}_{\text{bid,preCA}}$ and $\text{RCP}_{\text{Default,preCA}}$ would have the same definitions that NYSERDA proposed in the RFI, with the default UPF as determined in accordance with our answer to Question 5, below. For projects that did not exercise this option, Adjustment 1 would be zero.

The second step would be to replace the existing RCP with Formula 3, without any further adjustments to the strike price (see Section [2] of the appendix for further details of how this would work).

Formula 5, coupled with a weighting factor, should not be used, given its inability to deal with diverse contractual conditions.

- 5. Should NYSERDA utilize different default UPF values for any technologies or Index (O)REC Contract vintages than those identified herein? Please provide a justification for any alternative default UPF proposals.**

General Suggested Approach

Regardless of NYSERDA's ultimate approach to adjusting existing contracts, it must ensure that the default values used reasonably reflect the production expectations of the resource class and the status quo accreditation rules. In some cases, the default UPFs proposed by NYSERDA vastly understate the reasonable expectations of accreditation for resource classes under the status quo.

As discussed above, we do not think that there is much merit in examining the average bid UPFs to help determine the Default UPFs because the low UPFs are not representative of Supplier's capacity market revenue expectations.

However, we do believe there is significant merit in taking a critical assessment of the UCAP that would have been calculated by the ICAP Manual for each resource class in setting the default UPFs, especially since it is the ICAP Manual that determines the UCAP values that Project's will receive. The ICAP Manual sets the UCAP for the first year of a project's operation based on a formula and applies the peak load windows to a projects' operating history for subsequent years. Although the default first year values have not been updated in all cases to account for technological improvements such as larger turbine rotors in the case of wind, or bi-facial modules and tracking systems in the case of solar, they were intended to be a proxy of what UCAP a project could expect to achieve in the market. More importantly, applying a resource class' 8760s to the Peak Load Windows is very germane to determining reasonable revenue expectation as this is how resources would have been assessed in the long term.

In the paragraphs that follow we discuss each resource class, and then provide a recommendation on a standard approach to apply for all resource classes.

Land Based Wind Power

Changes to NYSERDA's proposed seasonal default UPF values for land based wind power are needed. The proposed default seasonal UPF values of 30% for winter and 10% for summer significantly understate the expected production of wind resources. These differences are substantial and, if used, an unreasonably low default value could drive injurious outcomes for existing wind projects under NYSERDA's proposed Strike Price conversion approach.

Expecting onshore wind projects to outproduce the proposed default values is supported by both NYISO and NYSERDA data. The 30% winter and 10% summer UPF values proposed by NYSERDA come from version 6.47 (published May 20, 2020) of the ICAP Manual and earlier. In those versions of the manual, the NYISO states that the values were "taken from the Report on Phase II System Performance Evaluation *"The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations"* prepared by GE Energy, March 4, 2005." It's inaccurate to assume that default UPF values derived from pre-2005 production data reasonably reflect the production expectations of proponents bidding wind projects over a decade later.

The current default capacity values published by NYISO are 34% winter and 16% summer. These higher default values were calculated using production data from existing wind resources between 2015 and 2019; For projects bid in that timeframe, it's reasonable for proponents to have expected their projects to achieve greater capacity factors than what was currently being achieved by less technologically advanced turbines. NYSERDA notes that the average as-bid UPFs of the 11 existing wind contracts is 34.2% for winter and 13.8% for summer, values that are 14% and 38% greater than the default values proposed in the RFI.

The above suggests that changes to NYSERDA's proposed seasonal default UPF values are needed. NYSERDA surveyed a number of different approaches to determine the default UPFs, including the VCOs, Bid UPFs, the values in the ICAP Manual, the NERC class average capacity factor for hydro, the 8760s for Solar and the 12x24s for offshore wind. Assessing the ICAP Manual in conjunction with relevant production data is the most sound approach to determine reasonable market revenue expectations prior to accreditation reform. In addition, we see considerable merit in taking the same approach across all technology classes. Please find our recommendation for all resource classes at the end of this answer.

Solar Power

As NYSERDA notes in the RFI, the 8760 analysis of the PLWs of the RESRFP20-1 and RESRFP21-1 solar contracts yielded a UCAP of 51% for summer and 2% for winter, values that are well in excess of the average UPF values that Suppliers bid. We also note that technology has improved over the successive RFPs, in particular with respect to improvements in panel efficiency, bifacial panels, and tracker efficiency, and as a result, we expect that the results of the 8760 analysis understates the UCAP that projects would achieve given their current designs.

We do note that, the first-year default formula for solar projects in the ICAP Manual, assuming a conservative DC/AC ratio of 1.35 and a transformer/inverter efficiency factor of 1.05, yields a summer UCAP of 65.2% and a winter UCAP of 2.8%. These values are well in excess of the average bid UPFs,

are consistent with 8760s of well sited tracker projects with bifacial panels, and are well in excess of the 8760 average calculated by NYSERDA and referred to in the prior paragraph.

Applying the ICAP manual therefore suggests that Suppliers as a whole bid UPFs that were well below the revenues that were available to the projects under the ICAP Manual. We believe that critically assessing the ICAP Manual is the most sound method of assessing reasonable expectations of capacity revenues, and is much more sound than analyzing the VCO/bid UPFs given diverse bidding strategies, because the market rules in force at the time of the bid directly determine what merchant revenue would have been available to the projects based on their production data.

Offshore Wind Power

ACE NY supports using the 12x24 production profiles submitted by all bidders in ORECRFP18-1 and ORECRFP20-1 to calculate the default UPFs for Offshore Wind.

Hybrid Resources

NYSERDA has not proposed default UPFs for the purposes of adjusting the contracts of hybrid resources (i.e., renewables plus storage). The as-bid UPFs for hybrid projects would reasonably include the impact of storage on expected peak load window production associated with the storage asset. Simply applying the default UPFs of the underlying renewable resource (solar, for instance) would fail to accurately represent the reasonable production expectation of the hybrid resource. For the purposes of the conversion calculation, applying the default value of the underlying renewable resource would lead to significant reductions in expected project capacity market revenues. NYSERDA needs to develop default values and a unique conversion approach for this subset of hybrid resources. This issue may be mitigated if NYSERDA accepts the strike price adjustment approach that we propose herein, allowing hybrid resources to decline the strike price adjustment while transitioning to RCP Formula 3, though getting the default right would still be important for any hybrid projects that deliberately did not avail themselves of the full capacity hedge.

ACE NY, United, NYOWA Proposal on Default UPFs

Given the above, we propose that any reference to default UPFs refer to the two most recently available years of production data and applied to the peak load windows under the ICAP Manual (i.e., the 8760s for RESRFP20-1 and RESRFP21-1 for solar, the 8760s for RESRFP18 and RESRFP19 for land based wind, and the 12x24s for offshore wind). Given the advances in technology, we would encourage NYSERDA to not use more data than the last two available years. We believe that these generate reasonable default values that are a fair reflection of what merchant market revenue was available to suppliers prior to capacity accreditation rule changes.

Based on this proposal, our organizations request that NYSERDA calculate and share the UCAP factors generated by the 8760s provided with the land based wind project bids as a class. We note these numbers have already been provided in the RFI for other resource types. Our organizations would like to condition our support of this approach on first reviewing the results of these calculations for land based wind.

6. Should NYSERDA utilize different capacity price forecasts to calculate the adjusted Strike Prices than those identified herein? Please provide a justification for any alternate capacity price forecast proposals.

In the RFI, NYSERDA states on Page 16: “For purposes of calculating the RUP in the adjustment formulas, NYSERDA currently intends to propose to utilize the respective capacity price forecast used in evaluation for ORECRFP18-1, ORECRFP20-1, RESRFP20-1 and RESRFP21-1 projects and the capacity price forecast used to calculate Index REC Strike Prices for VCO projects.” We believe that it is reasonable to use the applicable vintages of capacity prices for each contract, as-bid or as used in the contract conversions.

7. Please provide any additional feedback that you believe will be helpful to NYSERDA in developing its petition to the PSC in response to the New NYISO Capacity Accreditation Rules.

We respectfully request the opportunity for a small group of ACE NY members to meet with NYSERDA staff to discuss our proposal in-person prior to NYSERDA’s development of a Petition on this topic.

VI. Conclusion

ACE NY, United, and NYOWA appreciate and support NYSERDA’s plan to petition the New York State Public Service Commission to modify the formula used to calculate the Reference Capacity Price in existing and new Tier 1 and Offshore Wind contracts, which is a fair and rational approach to the change in law represented by the new NYISO rules on capacity accreditation. We do not support the portion of the proposal that explains how NYSERDA will adjust strike prices in existing contracts, and respectfully request that that portion of the proposal be amended as suggested herein. Thank you for the opportunity to comment on this RFI.

Please see Appendix below.

Appendix

Section 1:

Short demonstration that Term 1 is an adjustment so that the net revenue of each project is reduced to the difference in capacity market revenues that project experiences solely due to the capacity accreditation changes:

Apply Adjustment 1 and the ΔCRL ; without applying the $\Delta CMRE$ adjustment:

$$\text{Strike Price}_{\text{RevA2}} = \text{Strike Price}_{\text{RevA1}} - \Delta CRL$$

$$\text{But: } \Delta CRL = ((\text{Strike}_{\text{RevA1}} - \text{RCP}_{\text{postCA}}) - (\text{Strike}_{\text{Bid}} - \text{RCP}_{\text{Bid,preCA}}))$$

$$\text{Strike Price}_{\text{RevA2}} = \text{Strike Price}_{\text{RevA1}} - ((\text{Strike}_{\text{RevA1}} - \text{RCP}_{\text{postCA}}) - (\text{Strike}_{\text{Bid}} - \text{RCP}_{\text{Bid,preCA}}))$$

$$\text{Strike Price}_{\text{RevA2}} = \text{Strike Price}_{\text{RevA1}} - (\text{Strike}_{\text{RevA1}} - \text{RCP}_{\text{postCA}} - \text{Strike}_{\text{Bid}} + \text{RCP}_{\text{Bid,preCA}})$$

$$\text{Strike Price}_{\text{RevA2}} = \text{Strike Price}_{\text{RevA1}} - \text{Strike}_{\text{RevA1}} + \text{RCP}_{\text{postCA}} + \text{Strike}_{\text{Bid}} - \text{RCP}_{\text{Bid,preCA}}$$

$$\text{Strike Price}_{\text{RevA2}} = \text{Strike}_{\text{Bid}} + \text{RCP}_{\text{postCA}} - \text{RCP}_{\text{Bid,preCA}} \quad (\text{n.b., This is Term 1 of Formula 6})$$

Check ΔRev :

$$\Delta \text{Rev} = (\text{Strike}_{\text{rev2}} - \text{RCP}_{\text{postCA}} + \text{CMRE}_{\text{postCA}}) - (\text{Strike}_{\text{bid}} - \text{RCP}_{\text{bid,pre-CA}} + \text{CMRE}_{\text{bid,preCA}})$$

$$\Delta \text{Rev} = (\text{Strike}_{\text{Bid}} + \text{RCP}_{\text{postCA}} - \text{RCP}_{\text{Bid,preCA}} - \Delta \text{CMRE} - \text{RCP}_{\text{postCA}} + \text{CMRE}_{\text{postCA}}) - (\text{Strike}_{\text{bid}} - \text{RCP}_{\text{bid,pre-CA}} + \text{CMRE}_{\text{bid,preCA}})$$

$$\Delta \text{Rev} = + \text{CMRE}_{\text{postCA}} - \text{CMRE}_{\text{bid,preCA}}$$

=> Adjustment 1 /ess ΔCRL adjusts the strike price formula to isolate the difference in CMRE

Section 2:

A. Simplified proposal for Suppliers who do not take the Default Election: Simply replace the existing RCP with the Formula 3.

$$\text{Strike}_{\text{rev}} = \text{Strike}_{\text{bid}} - \text{RCP}_{\text{PostCA}}$$

Comparing Post and Pre-Capacity Accreditation Revenues:

$$\text{Rev}_{\text{post}} - \text{Rev}_{\text{pre}} = (\text{Strike}_{\text{bid}} - \text{RCP}_{\text{postCA}} + \text{CMRE}_{\text{postCA}}) - (\text{Strike}_{\text{bid}} - \text{RCP}_{\text{bid,pre-CA}} + \text{CMRE}_{\text{bid,preCA}})$$

$$\Delta \text{Rev} = \text{Strike}_{\text{bid}} - \text{RCP}_{\text{postCA}} + \text{CMRE}_{\text{postCA}} - \text{Strike}_{\text{bid}} + \text{RCP}_{\text{bid,pre-CA}} - \text{CMRE}_{\text{bid,preCA}}$$

$$\Delta \text{Rev} = - \text{RCP}_{\text{postCA}} + \text{CMRE}_{\text{postCA}} + \text{RCP}_{\text{bid,pre-CA}} - \text{CMRE}_{\text{bid,preCA}}$$

But, $\text{CMRE}_{\text{Bid,PreCA}} = \text{RCP}_{\text{Bid,PreCA}}$ because for these bidders the bid UPF represents their genuine capacity market revenue expectation

$$\Delta Rev = - RCP_{postCA} + CMRE_{postCA} + RCP_{bid,pre-CA} - RCP_{Bid,PreCA}$$

$$\Delta Rev = - RCP_{postCA} + CMRE_{postCA}$$

But, $RCP_{PostCA} = CMRE_{postCA}$, therefore,

$$\Delta Rev = 0.$$

Therefore, for a project with whose UPF_{bid} reflect their genuine capacity market revenue expectations, simply replacing the RCP_{PreCA} formula with Formula 3, maintains the Supplier's total revenue expectations.

B. Simplified proposal for Suppliers who do take the Default Election, and then replace the existing RCP with Formula 3

$$\text{Strike Price}_{rev} = \text{Strike Price}_{Bid} + RCP_{Default,preCA} - RCP_{Bid,PreCA} \text{ (Formula 4)}$$

Comparing Post and Pre-Capacity Accreditation Revenues:

$$Rev_{post} - Rev_{pre} = (\text{Strike}_{rev} - RCP_{postCA} + CMRE_{postCA}) - (\text{Strike}_{bid} - RCP_{bid,pre-CA} + CMRE_{bid,preCA})$$

$$\Delta Rev = (\text{Strike Price}_{Bid} + RCP_{Default,preCA} - RCP_{Bid,PreCA} - RCP_{postCA} + CMRE_{postCA}) - (\text{Strike}_{bid} - RCP_{bid,pre-CA} + CMRE_{bid,preCA})$$

$$\Delta Rev = \text{Strike Price}_{Bid} + RCP_{Default,preCA} - RCP_{Bid,PreCA} - RCP_{postCA} + CMRE_{postCA} - \text{Strike}_{bid} + RCP_{bid,pre-CA} - CMRE_{bid,preCA}$$

$$\Delta Rev = RCP_{Default,preCA} - RCP_{postCA} + CMRE_{postCA} - CMRE_{bid,preCA}$$

$$\Delta Rev = - RCP_{postCA} + CMRE_{postCA} + RCP_{Default,preCA} - CMRE_{bid,preCA}$$

But, $RCP_{PostCA} = CMRE_{postCA}$; therefore

$$\Delta Rev = RCP_{Default,preCA} - CMRE_{bid,preCA}$$

But, $CMRE_{bid,preCA} = RCP_{Default,preCA}$, since for low UPF bidders, $RCP_{Default,preCA}$ represents the these Suppliers' reasonable capacity market revenue expectations, therefore

$$\Delta Rev = 0$$