BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program.	Rulemaking 15-02-020 (Filed February 26, 2015)

REPLY COMMENTS OF THE BAY AREA MUNICIPAL TRANSMISSION GROUP JUNE 22, 2016 ALJ RULING ON LCBF REFORM FOR RPS PROCUREMENT

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In accordance with California Public Utilities Commission ("Commission") Rules of Practice and Procedure ("Rules"), the Bay Area Municipal Transmission Group ("BAMx")[1] hereby submits these reply comments regarding the Energy Division's Staff Paper on Least-Cost Best-Fit ("LCBF") Reform ("Staff Paper"), which was attached to the June 26, 2016 ALJ Ruling ("Ruling") accepting into the record energy division staff paper on least-cost best-fit reform for renewables portfolio standard ("RPS") procurement and requesting comment.

I. INTRODUCTION

The June 22nd Ruling issued a paper by the Commission's Energy Division ("ED") on LCBF reforms. On July 22nd, several parties filed opening comments in response.

II. BAMX RESPONSES TO THE PARTY COMMENTS

In this section, we include the BAMx response to the Party comments filed on July 22nd. These comments are divided into the following three sections. Section A includes a discussion on the Capacity Price, whereas Section B and C include the discussion of the Time of Delivery ("TOD") Factors and the Valuation of Deliverability Status, respectively.

1 The members of BAMx are City of Palo Alto Utilities, City of Santa Clara, *dba* Silicon Valley Power.

A. Capacity Price

BAMx appreciates Pacific Gas and Electric Company's ("PG&E") detailed description of methods and calculations used for the derivation of short- and long-term avoided capacity prices.[2] However, BAMx fails to understand PG&E's opposition to standardizing the capacity price calculation methodology across the Investor Owned Utilities ("IOUs"). PG&E supports using any publicly-available capacity prices only as a benchmarking and reporting tool, rather than using them for assigning a capacity value to bids in utilities' LCBF methodologies.[3] PG&E states the following rationale in support of its argument.

> "…, there would be significant risks to customers of using public forward capacity price curves to evaluate and rank offers in the LCBF process, rather than as an informational and benchmarking exercise. Confidential prices protect the competitiveness of solicitation results, and by extension, protect ratepayers from overpaying for procurement. If components of contract value, such as capacity, are set administratively, bidders might be tempted to submit offers at or very close to those administratively set values, rather than submit their lowest-priced offer, negating a competitive marketplace for RPS procurement."

BAMx agrees with California Wind Energy Association's ("CalWEA") comments that in a very competitive market, such as the one that currently exists in California, this risk is unfounded, as competition, rather than value estimates, will drive bid prices. Therefore, BAMx believes the real issue is whether or not disclosing capacity pricing in a transparent manner leads to a better decisionmaking process. BAMx also concurs with CalWEA's following argument outlining why the "risk" in creating transparency and consistency around forward capacity price curves is unfounded.[4]

> "…, in the case of renewable energy procurement, bidders are competing to provide the primary product, RPS energy, on an overall net market value basis, and capacity is an ancillary product that provides only one of the many inputs in the NMV calculation. Thus, providing an estimate of capacity value will not compromise the competitiveness of the solicitation, but it will inform some bidders as to whether securing FCD status would be worthwhile."

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[2] PG&E Comments, Rulemaking 15-02-020, July 22, 2016, pp. 6-17. BAMx also appreciates PG&E's posting of its public Avoided Capacity Cost (ACC) model.
[3] *Ibid.* pp. 15-16.
[4] CalWEA Comments, Rulemaking 15-02-020, July 22, 2016, p. 5.

Southern California Edison's ("SCE") opening comments include a calculation of "Average Capacity price of Contracts Executed in Target Year" in its Appendix B. However, BAMx cannot meaningfully interpret these capacity prices expressed as dollar ($) amounts.[5] We request SCE to either explain the table included in Appendix B or provide a table similar to the one provided by PG&E comprising the "Weighted Average Pricing for System and Local RA Contracts" that is expressed in $/kW-month terms.[6] We also urge the Commission to have SCE provide the individual contract pricing information similar to that provided by PG&E and SDG&E.[7] In particular, SCE needs to disclose the contract RA prices that are more than three years old.[8]

B. Time of Delivery ("TOD") Factors

The TOD factors were designed to provide incentives for the sellers to encourage them to make resources available and deliver energy in periods where it is needed the most. In other words, TODs were designed to provide an alternate way of valuing resources for their energy based upon the time period it is delivered.

The Independent Energy Producers Association ("IEP") recognizes that assigning greater TOD factors to resources seeking Full Capacity Deliverability Status ("FCDS") relative to those seeking Energy Only ("EO") have resulted in systematic bias towards FCDS resources. In particular, IEP states the following.[9]

> "To cite one example, Southern California Edison Company's RAM[10] 4 pro forma PPA[11] offered a TOD factor of 2.77 for resources with FCDS during the summer on-peak period, when solar facilities achieve their maximum production. The TOD factor for energy-only resources for the same period was 1.11."

In the past, the IOUs had two sets of TOD factors, one for EO resources, and one for fully deliverable resources. The EO TOD factors represented the hourly value of energy and the fully deliverable TOD factors represented the combined value of energy and capacity. BAMx

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[5] SCE Comments, Rulemaking 15-02-020, July 22, 2016, Appendix B
[6] PG&E Comments, Table 2, p.15. SDG&E has also provided some un-redacted information in Response 2C, p.7
[7] PG&E Comments, Appendix A, and SDG&E Response 2B, pp.5-6.
[8] Public Utilities Code Section 454.5(g) and General Order 66-C.
[9] IEP Comments, p.11.
[10] Renewable Auction Mechanism
[11] Power Purchase Agreement

observes that there is a wide consensus among the parties with the IOUs' decision to change to a single set of TOD factors.[12] BAMx agrees with these parties that the energy and capacity values should be considered separately in LCBF bid evaluation. Differentiating TODs by deliverability status serves no purpose. This fact is illustrated by CalWEA's following rationale.[13]

> "First, an FCDS project delivers the same energy at the same time and subject to the same congestion management protocols as an otherwise identical EO project located next door providing the same shape of deliveries. Second, the RA capacity benefit is already separately valued through the capacity component of the "Net Market Value" (NMV) formula adopted by the Commission in its decision on the 2012 RPS procurement plans."

BAMx is in agreement with CalWEA's assertion that the Utilities should be required to make transparent the value they add to projects with FCD status over those which are EO. We concur with CalWEA that

> "The generator receives virtually no preferential dispatch treatment or other grid benefits due to FCD status. Therefore, the only factor in the developer' s calculation as to whether to obtain FCD status, if applicable (which can be extremely costly due to the associated deliverability transmission upgrade) is the benefit it will obtain in the LSEs' bid evaluation processes for that status."[14]

Given the important purpose of informing decisions regarding policy-based transmission upgrades made in the Long Term Planning Process ("LTPP") and CAISO Transmission Planning Process ("TPP"), we support CalWEA's proposal[15] that the utilities should publicly disclose the capacity values that they would ascribe to projects with FCD status, and associated capacity payments.

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[12] PG&E comments indicate that this change was driven by "relatively low capacity values, due to low capacity prices and low NQC values due to the use of an incremental ELCC methodology for intermittent resources as well as the derivation of an hourly capacity value from an annual capacity value uses the same hourly net load shape as used to develop hourly energy values. As a result, there is little difference between the EO and fully deliverable TODs. (See p.18), SDG&E suggests that that variable TODs should be removed from the contract (SDG&E comments pp.9-11), whereas SCE believes that TODs are not serving a useful purpose or may actually negatively impact customers (SCE comments pp.9-10). See CalWEA Comments, p.6. Center for Energy Efficiency and Renewable Technologies **(**CEERT) (p.7) states that the ELCC methodology explicitly measures the capacity value of energy deliveries, thus making the use of TOD factors (for this purpose) superfluous.

[13] CalWEA Comments, p.6

[14] *Ibid*, p.9.

[15] *Ibid*.

C. Valuation of Energy Only Deliverability Status in RPS Procurement

i. Impact of EO on the financial, reliability, or RPS-compliance risks of RPS procurement

The majority of the parties, including BAMx[16], that have chosen to comment on the impact of EO on the risk associated with RPS procurement agree that an increase in EO projects would not have a major effect on the financial, reliability, or RPS-compliance risks of RPS procurement.[17] BAMx concurs with PG&E that since EO projects, unlike FCDS ones, do not face the same risks in terms of deliverability, an increase in EO projects would, if anything, reduce the overall risk of contract failure.[18]

CalWEA is in agreement with BAMx's assertion[19] that the RPS is an energy, not a capacity, requirement, thus there is no justification for requiring all RPS resources to be deliverable.[20] Furthermore, several parties, including BAMx, agree that currently deployed "deliverability" tool at the CAISO does not assess the expected impact of congestion or curtailment of the EO versus FCDS resources.[21] For example, PG&E states the following.[22]

> "The current deliverability study process also does not directly address congestion, as deliverability is primarily focused on an on-peak time period whereas congestion could occur over all timeframes. Accordingly, it should be the CAISO's responsibility to consider whether the TPP and/or GIDAP process may need to be refined with regard to evaluating upgrades to relieve congestion, particularly on the transmission and sub-transmission system."

And CalWEA states the following.

> "Regarding transmission-related curtailments, which could conceivably create RPS compliance- related risks and financial risks for developers, CAISO' s deliverability methodology is not aimed at determining and mitigating transmission congestion that could cause curtailments. Deliverability of generation from a proposed project, as currently determined by the CAISO, and whether the renewable generation will be

[16] BAMx Comments, Rulemaking 15-02-020, July 22, 2016, pp. 5-6.
[17] PG&E Comments, pp.22-24, CalWEA Comments, pp.13015, SDG&E Comments, pp.14-15, Transwest Express LLC Comments, pp.3-4.
[18] PG&E Comments, pp.22-23.
[19] BAMx Comments, pp. 6 and 11.
[20] CalWEA Comments, pp.11-12.
[21] BAMx Comments p.13.
[22] PG&E Comments, p.23.

> curtailed due to transmission congestion, are not directly correlated. This is because the single scenario assuming double contingency- based dispatch used for the CAISO's peak-load deliverability study has no resemblance to the actual commitment/dispatch conditions that are likely to occur in actual CAISO operations. That is, the constraints found under deliverability studies do not necessarily represent the same constraints that would occur under more realistic operational conditions, which are not simulated by the deliverability study."

In its opening comments, BAMx had cited the CAISO 2015-16 TPP Special Study results that demonstrate that the current transmission infrastructure can accommodate a considerable amount of EO capacity without causing any significant reliability issues or any significant renewable curtailments.[23] Similar observations were made by other parties, such as CalWEA[24] and PG&E[25] in their opening comments.

PG&E also suggests that while the RPS Calculator and the CAISO's special studies are beneficial, the CAISO should also consider whether the TPP and/or Generator Interconnection and Deliverability Allocation Procedures ("GIDAP") may need to be refined with regard to evaluating upgrades to relieve congestion, particularly on the sub-transmission system. PG&E further suggests that "(the) CAISO may wish to consider whether policy projects that relieve congestion should also be considered in the future" and that "PG&E's LCBF methodology would simply take into account (such) updated CAISO process."[26] BAMx agrees with PG&E's proposal to assess policy-driven projects based upon congestion and notes that PG&E's statements are consistent with BAMx's suggestion to utilize the production cost simulations model to comprehensively assess the expected impact of congestion or curtailment of the EO versus FCDS resources.[27]

Although BAMx does not agree with SCE that increased penetration of EO projects will necessarily "lead to overflow of power on transmission facilities and increased congestion," we appreciate SCE's appeal that "additional studies are needed to study the impact of EO resources

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[23] BAMx Comments, pp. 7-8.
[24] CalWEA Comments, p.14
[25] PG&E Comments, p.24
[26] Ibid.
[27] BAMx Comments, p. 13.

on the system in other non-stressed and normal conditions in order to completely understand the risks associated with increased amounts of EO projects on the system."[28]

ii. On LCBF methodology accurately weighing the likely costs and benefits to ratepayers of EO projects relative to FCDS projects

BAMx, in its opening comments, had identified several issues highlighting that LCBF methodologies do not necessarily accurately weigh the likely costs of FCDS resources. That places FCDS resources in an advantageous position relative to EO projects.[29] On the contrary, the IOUs in their opening comments have claimed that their LCBF methodologies accurately weigh the likely costs and benefits to ratepayers of EO projects relative to FCDS projects.[30] However, they do not address the process issues that BAMx had illuminated.

Also, in its opening comments, BAMx had identified a problem with the arbitrary imposition of the EO congestion cost adder in the procurement process.[31] CalWEA has also identified the same issue when it indicates the following.[32]

> "Unfortunately, SCE' s 2015 RPS procurement plan applies an incremental congestion cost adder to all CAISO projects that select EO status, despite the lack of correlation between congestion and deliverability status, and on an average basis rather than specific to transmission areas."

iii. Barriers to developing EO projects

BAMx is encouraged by PG&E's comments regarding the lack of significant barriers to EO development in its latest solicitation. It states, "PG&E shortlisted EO bids and anticipates EO bids to continue to be competitive under the LCBF methodology for RPS procurement."[33] Nonetheless, BAMx, as stated in its opening comments, continues to be concerned about the

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[28] SCE Comments, p.15. Similar comments are made by the Office of Ratepayer Advocates ("ORA") (p.6), that is, "Since reliability issues and incentives favor the development and procurement of full capacity RPS projects, more in depth analysis should be undertaken to study the cost savings potential as well as the risks of adding energy-only projects to the grid.
[29] BAMx Comments, pp.10-12.
[30] PG&E Comments, p.26, SCE Comments, p.16, SDG&E Comments, p.15
[31] BAMx Comments, p.8.
[32] CalWEA Comments, p.20.
[33] PG&E Comments, pp.26-27. SCE (p. 17) also claims that its "LCBF methodology fairly evaluates the different costs and benefits of EO and FCDS projects."

difficulties in making a proper comparison of FCDS and EO offers.[34] Furthermore, BAMx shares CalWEA's concerns regarding the overestimation of the value of RA capacity that may lead to preferences for FCDS projects. CalWEA had identified two factors affecting the overestimation of RA capacity as follows.[35]

> "The assumption that the utilities accurately assess the value of RA capacity is not necessarily the case at present, however, as the value of capacity has often been overestimated in the past due to inflation of both factors: the value of capacity, and the fraction of that capacity that is delivered by variable renewable resources. With regard to the former, the Ruling's requirement that the utilities develop a joint proposal for a standardized methodology and set of inputs and assumptions for estimating future capacity prices is encouraging. The Commission should ensure that the capacity values used in the utilities' ANMV[36] equation are not inflated and prohibit any unquantified preferences for FCD status."

BAMx supports CalWEA's call for the utilities to make transparent the RA values they will assign to projects with FCD status.

iv. Determining the value of FCDS status

CalWEA and BAMx are in agreement regarding the need to comprehensively assess the expected impact of congestion or curtailment of the EO versus FCDS resources to improve a renewable energy project development team's ability to confidently determine whether the value of FCDS status is worth the cost of obtaining it.[37] Both agree that increased transparency of the calculation of congestion/curtailments will facilitate the project development team's ability to make a proper assessment.

v. Bidding to convert to FCDS status

In terms of the ability to offer different prices for an EO versus an FCDS product, BAMx is encouraged to know that PG&E already accepts both EO and FCDS bids for a single project in

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[34] BAMx Comments, pp.11-13. BAMx had argued that neither procurement (lack of appropriate accounting of transmission cost) nor transmission planning process (an exemption of economic test in the RPS Calculator and an assumption that the entire portfolio needs to be fully deliverable in the CAISO TPP) explicitly considers the transmission cost accurately and leads to economically inefficient outcome of triggering excessive and unneeded transmission upgrades.
[35] CalWEA Comments, p.19.
[36] Adjusted Net Market Value
[37] CalWEA Comments, p.20.

its current competitive solicitation process.[38] The Commission should encourage the other IOUs to make a similar provision.

vi. RA accounting changes to support economically optimal level of EO Projects

Several parties, including BAMx, recommend using consistent capacity values based upon the Effective Load Carrying Capability ("ELCC") methodology.[39] BAMx considers that the consistency of the renewable resource RA valuation across multiple processes to be paramount, and agrees with CalWEA that the "RA valuation in the Commission's RA proceeding and the RPS LCBF process should be aligned so that the value that is ascribed to RPS bids matches what is later recognized in the RA process."[40]

BAMx finds IEP's following comments intriguing and agrees with the need for more transparent location-specific RA capacity valuation.[41]

> "The results of the LCBF methodology over the last few years suggest that the utilities may be valuing capacity too highly, at least in some locations. If utilities were more transparent about how they value capacity in specific locations (similar to the RAM and solar photovoltaic program information), sellers would be better able to provide capacity and FCDS where needed, and to site lower-priced energy-only renewable energy project in areas where capacity is less valued."

vii. FCDS as a useful indicator or proxy for specific benefits or other attributes of a renewable energy resource

BAMx agrees with PG&E that "FCDS is generally not a useful indicator of whether a specific project will contribute to or be subject to congestion" and that "Resources are subject to the same congestion rules regardless of whether that resource is EO or FCDS."[42] BAMx neither concurs with SCE's characterization that transmission upgrades commensurate to the EO capacity are needed to avoid localized congestion, nor with its current practice to arbitrarily

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[38] PG&E Comment, p.28.
[39] SCE Comments, p.20, SDG&E Comments, pp. 18-19, CalWEA Comments, p.22.
[40] CalWEA Comments, p. 22.
[41] IEP Comments, pp.13-14.
[42] PG&E Comments, p.29.

assign incremental congestion cost adder to all EO projects. As we have discussed earlier, to our knowledge, there is no evidence that the judicial selection of EO projects necessarily cause local congestion and that determination should be made on a case by case basis. Importantly, more data-driven processes are required to determine appropriate congestion cost adders, by location, for a given EO resource as described in the next sub-section.

viii. Determination of congestion costs in different areas

SCE's states the following to describe how it determines congestion costs in different areas in its LCBF evaluation process.[43]

> "SCE forecasts locational congestion adders by blending historical congestion prices with results from fundamental security-constrained production cost simulation models (Plexos and/or GridView), which simulate the CAISO day-ahead market with transmission constraints and produce LMPs with energy, congestion and loss components for future years. SCE then applies the congestion forecast in the valuation model as two numbers for on and off peak per quarter, held constant across the valuation term."

SCE also adds that it has "updated its long-term forecast for locational congestion adders in 2015 for use in the 2014 (launch year) RPS RFO," which are subsequently going to be further updated this year.[44] SCE also indicates that it applies the historical congestion prices to the projected prices developed by market simulations to calculate the blended congestion adders.

Based upon the limited information provided by SCE and PG&E in their opening comments, we believe that SCE's approach for determining locational congestion cost adders is superior for the following two reasons. First, unlike PG&E's approach that purely relies on the historical locational marginal pricing ("LMP") data[45], SCE's approach, in addition to the historical pricing data, also deploys a market simulations tool to develop market price and congestion forecast for the future. Given the continuously changing contracted resources, transmission infrastructure improvements and other market fundamentals, such as fuel prices, load, and hydro conditions, it is likely that future congestion prices may not necessarily be reflective of past congestion values. Second, SCE's approach yields locational congestion cost

[43] SCE Comments p. 22.
[44] *Ibid*.
[45] PG&E Comments, p.30

adders at a much-needed greater granularity, that is, at a pricing node level rather than at the CAISO Sub-Load Aggregation Points level in case of PG&E[46].

In order to better understand the SCE's approach, the Commission should ask SCE to provide further details of its methodology that describe the method used to blend the historical congestion prices and the projected prices. This information would be also helpful in understanding the consistency of SCE's market price and congestion projections with those developed under the CAISO's TPP studies.

Given some limitations and SDG&E's experience that the estimated congestion cost adders are very small, SDG&E has recommended against adopting a mandatory process for estimating congestion-related costs.[47] However, given the critical transition period where EO resources are finally considered as a viable commercial option, there needs to a robust process in play to evaluate congestion-related costs. Such a process will provide incentives to renewable developers to submit EO applications when and where appropriate, and one that will ultimately ensure the deployment of EO projects in keeping with the principles of LCBF.

III. CONCLUSION

BAMx appreciates the opportunity to submit reply comments on the Energy Division's Staff Paper on LCBF Reform for RPS procurement and acknowledges the significant effort of CPUC ED Staff. BAMx is encouraged that the IOUs and other parties believe that EO projects are a currently viable option for many renewable resources under existing policy and LCBF methodology. BAMx shares these parties' enthusiasm for the balanced consideration of EO bids and the information that would facilitate full consideration of all the costs and benefits associated with the selection of FCDS versus EO offers. BAMx is hopeful that the ongoing LCBF reforms will lead to procurement of both FCDS and EO resources based upon a robust economic assessment in the near future. It is important to implement the major changes endorsed by the parties in this LCBF reform process in a timely manner. Such a timely implementation should

[46] PG&E Comments, Table 3, p.33
[47] SDG&E Comments, pp. 21-22.

correct the historical preference given to FCDS projects, which at times has led to transmission that was not economically justified.

August 9, 2016 Respectfully submitted,

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Verification

I, **Debra Lloyd**, am the representative of the **Bay Area Municipal Transmission Group**. I am authorized to make this Verification on its behalf.

The statements in the foregoing copy of ***REPLY COMMENTS OF THE BAY AREA MUNICIPAL TRANSMISSION GROUP JUNE 22, 2016 ALJ RULING ON LCBF REFORM FOR RPS PROCUREMENT*** are true of my own knowledge, except as to matters which are therein stated on information and belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 9th day of August 2016 at Palo Alto, California.

/s/ Debra Lloyd

Debra Lloyd
For the
BAY AREA MUNICIPAL TRANSMISSION GROUP