BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2019 and 2020 Compliance Years.	Rulemaking 17-09-020 (Filed September 28, 2017)

REPLY COMMENTS ON TRACK THREE PROPOSALS OF SUNRUN INC.

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Pursuant to Commissioner Randolph's January 29, 2019 *Amended Scoping Memo and Ruling*, Sunrun, Inc. ("Sunrun") hereby submits the following reply comments on Parties' Track 3 Proposals addressing further refinements to the Resource Adequacy ("RA") program.[1]

In a March 19, 2019 legislative hearing on the Commission's oversight of community choice aggregators ("CCAs"), the Deputy Executive Director for Energy and Climate Policy, Edward Randolph, explained the Commission's understanding of the causes of the growth in waiver requests for local RA, including the 11 load-serving entities ("LSEs") seeking waivers in 2018.[2] The two causes the Commission cited were not CCAs, electric service providers or utilities being "a bad actor" but rather "a confluence of two things:"[3]

1. The retirement of once-through cooling plants has reduced the available supply of local capacity in the market, and

2. More LSEs are trying to buy capacity from the same set of remaining plants, meaning those "plants have an ability now to potentially play the market a little bit."[4]

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[1] R.17-09-020, *Amended Scoping Memo and Ruling of Assigned Commissioner*, p. 3 (Jan. 29, 2019).

[2] California Senate Energy, Utilities and Communications Committee Oversight Hearing on "The Changing Electricity Landscape: the Need for a New Regulatory Approach?" (March 19, 2019) (relevant portion beginning at 2:18 at: https://vimeo.com/326220548).

[3] *Id.*

[4] *Id.*

Per Mr. Randolph, the resulting waivers from this "tighter market on local reliability," resulting from more entities trying to procure capacity from less resources, are a "sign that there's a problem in the market."[5]

Sunrun's Track 3 Proposal aims to address that exact problem by unlocking the thousands of MW of RA potential in behind-the-meter ("BTM") distributed energy resources ("DERs") that are available deep within constrained local areas.[6] Sunrun proposes to either (1) allow LSEs to account for load modifications from DERs procured specifically for the purpose of reducing an LSE's RA obligations or (2) expand the capacity eligible for Proxy Demand Response ("PDR") to include export capacity. A third proposal, allowing for BTM DERs to provide supply-side RA, may also make sense if certain other proposals are adopted in the future, such as Pacific Gas & Electric Company's ("PG&E's") proposal to no longer treat DERs as load modifiers.

Rather than support these helpful solutions to ease market constraints, the opening comments of various parties like the Independent Energy Producers Association ("IEPA") and Calpine, entities well-positioned as sellers to benefit from the tight RA market, hold up paper barriers as insurmountable obstacles to increased DER participation. It is also possible these parties misunderstand key aspects Sunrun's proposal. Misunderstandings and paper barriers should not prevent real resources from addressing a real "problem in the market," especially when the Commission's DER Action Plan and Multi-Use Application framework already call for the types of solutions Sunrun proposes. The best course of action is to:

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5 *Id.*

6 *See* R.17-09-020, Track 3 Proposal of Sunrun Inc., pp. 3-5 (Mar. 4, 2019) ("Sunrun Track 3 Proposal"); *id.* at Attachment A, Station A, stem, Sunrun, Inc., *Gigawatt Scale Customer Sited Potential: Achieving California Energy Policy Goals, Grid Reliability, and Local Resilience* (showing the thousands of MW of potential capacity within local areas and sub-areas).

- Establish appropriate means for LSEs to count RA-specific DER procurement against their load forecasts and, as a result, their RA requirements;

- Establish interim incrementality provisions consistent with those in the Integrated DER ("IDER") proceeding, R.14-10-003, and set a process to create more permanent provisions in close coordination with the IDER;

- Adopt Sunrun's proposal to expand the PDR capacity eligible for RA credit to include export capacity; and

- If PG&E's proposal to treat DERs as supply-side resources is adopted, put in place corresponding changes to ensure DERs can participate in the market.

The comments below take each of these points in turn.

I. Commission Action is Needed to Ensure LSEs Can Count RA-Specific Procurement Against their RA Requirements.

As Sunrun explained at the March 12th workshop, modifying the treatment of DERs in load forecasts is likely the easiest path to leveraging DERs to ease market constraints. The Commission relies on the California Energy Commission's ("CEC") load forecasts to set RA requirements for LSEs.[7] Revising the CEC forecast to incorporate more discrete contracting beyond the broad market trends currently included will ensure that the deployment of resources specifically for RA purposes will be captured. Currently, LSEs have no clear avenue to procure RA from DERs since the "autonomous" adoption in the load forecasts may already account for the incremental procurement.

[7] Cerutti, M. and Brooks, D., California Public Utilities Commission, *Resource Adequacy 2016 Load Forecast Adjustment Methodology - Revised*, p. 6 (2016) (stating with regard to load forecasting that "[a]fter the coincidence adjustments and plausibility adjustments are applied, CEC staff allocates credit for energy efficiency (EE), demand response (DR), and distributed generation (DG) programs in each of the three IOU service areas. The allocation accounts for the proportion of the load impacts accruing to each LSE due to a portion of the distribution charge paid by their customers. CEC staff allocates the impacts of the programs to LSEs proportionate to their share of load and so the decrease to their loads equals to the sum of the EE, DR, and DG credits. Consistent with the direction in D.05-10-042, impacts are either allocated to each LSE based on its share of total load or to only the IOUs depending on whether all customers or only bundled customers participate in the program.").

As some parties note, this approach requires changes at the CEC. Sunrun agrees and, as noted in our Opening Comments, recently suggested the CEC:

1. Omit any assumed modification to the aggregate load profile from batteries or similarly flexible DERs unless specific procurement has been verified by an LSE;

2. Establish a reasonable "baseline" forecast for DER adoption, with verified procurement beyond that forecast considered incremental; and

3. Prescribe a reporting protocol for LSEs to reflect DERs procured beyond forecasted adoption rates.

This approach will provide an avenue for LSEs to appropriately reflect the value of DERs procured within their load forecasts, while avoiding the potential for errors stemming from application of generic profiles to battery-paired resources that are unlikely to have such profiles.

However, the Commission must still address the issue, as well. The market lacks clear ways for DER providers and LSEs to apply capacity values from incremental, RA-specific procurement of BTM solar and battery storage combinations. We suggest that contracted procurement should, by its nature, constitute an incremental deployment versus forecast DER adoption. A reasonable approach towards this end may be to allow BTM DERs to choose to pull their capacity value from "autonomous" DER forecasts on the demand side, remain within those forecasts by default, or be placed on the supply side by the asset owner, via an express choice to participate in a certain program or solicitation. Such an approach would allow DER providers to be able to seek compensation from an LSE for either providing beneficial load modification above a reasonable "baseline" forecast, or for providing a supply-side RA resource that an LSE can procure to meet its RA obligations if a proposal is adopted to treat BTM resources as supply-side resources. We address the issue of incrementality in the next section.

II. Commission Action on Incrementality is Critical.

While Sunrun would prefer more permanent incrementality methodologies be adopted now, the Commission should adopt the *ad hoc* basis for incrementality developed in the IDER proceeding and pilots as an interim step. Therein, each IOU developed incrementality methodologies to be adopted in their individual pilot solicitations, and those methodologies were approved via advice letter.

Such an interim approach will address the problem where LSEs such as SCE and PG&E are extrapolating the CEC forecast down to local areas, which has had the effect of excluding DER eligibility during procurement solicitations, even though the CEC's load forecast itself makes no assertion regarding specific DER development in those areas. Other LSEs are looking to procure DERs specifically for RA value but have no clear means to account for the incrementality of that procurement. The result is the exclusion of local DERs from procurement based on incrementality. Establishing an interim *ad hoc* approach will ensure that both (1) the double-counting of resources is prevented so that the market truly benefits from incremental contribution of capacity and (2) capacity is not unreasonably withheld from the market based on overly conservative or opportunistic disqualification.

To remain consistent with prior incrementality guidance for distribution system capacity, extending the IDER guidance for generation capacity should include a clear prohibition on categorical exclusions for aggregated resources from providing RA capacity that participate in another program, such as the Self-Generation Incentive Program, Demand Response, or net energy metering ("NEM"). This clarity will provide a foundation for aggregated DERs to provide generation capacity beyond the limited avenues available under the *status quo*.

Beyond this interim ruling, the Commission should also set the stage for the establishment of more permanent incrementality provisions.[8] Sunrun supports the idea of close coordination between the IDER proceeding, R.14-10-003, and RA proceedings to develop more permanent incrementality methodologies. However, SCE's forum-splitting suggestion to take the issue completely out of scope here, and consider it solely in R.14-10-003 or elsewhere, would result in an unnecessary delay and threaten the issue becoming an orphan issue between various Commission dockets.[9] Close coordination via joint workshops, for example, is a better approach.

Finally, as Sunrun predicted in its Track 3 proposal, various parties like Calpine, SCE and IEPA argue that customers receiving a retail credit via the NEM program are already compensated for the capacity value they provide.[10] Those questions should remain outside the purview of Track 3, and be resolved elsewhere once a firm policy and methodology regarding incrementality is established, because LSEs largely procure RA resources via bilateral contracting. Each LSE, in particular those that are not CPUC-jurisdictional, should be able to

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[8] *See* Sunrun Track 3 Proposal at 13-15; SCE Opening Comments at 6-7.

[9] SCE Comments at 6-7.

[10] IEP Comments at 5; Calpine Comments at 7; and SCE Comments at 9. Sunrun continues to disagree with this assertion for a number of reasons, including, but not limited to: (1) customers earning NEM credits for exports from storage discharge are not receiving a net increase in compensation because they are losing the opportunity to earn retail value for solar that had been used to charge their systems or the retail value of offsetting future load; (2) the Commission has recognized the higher value of load reduction and exported energy during limited event windows in establishing the retail rates in its DR programs such as Peak Day Pricing; (3) the combined compensation for an aggregation of exporting NEM customers with storage would not be structurally different than what is provided to aggregations of load curtailment customers whose onsite load is so large that combinations of onsite generation and storage discharge would never export to the grid; and (4) the incremental revenue that a customer or aggregator earns from providing wholesale capacity services is by no means a windfall profit margin but rather needed to offset the incremental cost and risk involved in committing to aggregate and offer sufficient capacity subject to performance requirements (the situation is analogous to the way Lyft and AirBNB incur risks and costs in order to provide a platform for aggregating the supply of shared rides and short-term rentals).

Notably, none of the parties that raise this issue address these arguments, which were included in Sunrun's Track 3 Proposal.

determine the amount of compensation they provide local, aggregated DER resources (subject to Commission approval for those that are CPUC-jurisdictional).

The key, preliminary issues the Commission should address at this time is to establish a clear incrementality methodology for generation capacity and a prohibition on excluding BTM DER resources from LSE solicitations. An incrementality methodology will help to establish the foundation for what RA capacity services are being provided above and beyond those from existing programs and, therefore, the amount of capacity that deserves further compensation.

III. Sunrun's Proposal Regarding Exports is Narrowly Confined to the PDR Product.

IEPA's criticisms of Sunrun's proposal focus on the issue of energy exports, erroneously suggesting the proposal "deviates substantially from currently arrangements for recognizing and transacting RA capacity" and missing the narrow nature of the proposal.[11] At one point stating "[t]he PDR program has some key similarities to Sunrun's proposal," IEPA misses the fact that Sunrun's proposal regarding exports is *entirely contained* within PDR.[12] IEPA is correct that "[t]he PDR program allows for the aggregation of small increments of demand response for purposes of selling RA capacity to LSEs; Sunrun's proposal would aggregate small increments of residential solar + storage to sell RA capacity to LSEs."[13] Solar-paired storage has been aggregated into Proxy Demand Resources already.

The problem, as discussed extensively in Sunrun's proposal,[14] is that participating in PDR only provides capacity credit for reducing load. This approach ignores the significant capacity benefit DERs can provide by exporting energy. IEPA, in its comments, appears to confuse these instantaneous exports, which are enabled under Rule 21 interconnection, including

[11] IEPA Comments at 1.
[12] Sunrun Track 3 Proposal at 10-13.
[13] IEPA Comments at 6.
[14] Sunrun Track 3 Proposal at 11-12.

directly from batteries under a 10 kW limit, with an annual net surplus relative to purchases from the grid.[15] For clarity, compensation for a net surplus in exports versus annual grid purchases is a separate topic. Sunrun's proposal would have no effect on this compensation structure. Rather, Sunrun's proposal pertains strictly to the capacity value of battery discharge that fundamentally contributes equally to system reliability regardless of whether it is consumed behind a respective meter or injected to the grid to serve neighboring loads. This battery discharge would occur in line with all aspects of PDR requirements for deliverability, except that it may occur in excess of coincident load on the meter behind which it is interconnected. In a tightening local capacity market, it makes sense for the capacity value of this type of demand response to take into consideration the clearly deliverable, instantaneous export capability of the BTM solar and battery DER.

A handful of parties make much of the multi-jurisdictional nature of the RA and PDR programs, with IEPA, for example, dramatically concluding "[j]urisdiction over the PDR model is unambiguous" and raising concerns about net surplus compensation that we believe are based on an erroneous interpretation of the proposal.[16] First, the Commission has adopted rules on multi-use applications ("MUAs") that expressly state:

- "Resources interconnected in the customer domain may provide services in any domain."[17]
- "***Resources interconnected in any grid domain may provide resource adequacy, transmission and wholesale market services***." [18]

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[15] Calpine Comments at 6 (making the surprising suggestion that BTM DERs are not deliverable to load).

[16] IEPA Comments at 3-6, SCE Comments at 8.

[17] D.18-01-003, Appendix A, Rule 1.

[18] D.18-01-003, Appendix A, Rule 4 (emphasis added).

Second, Sunrun's proposal already addresses the issue of federal jurisdiction and only makes the following narrow request of the Commission in this docket:

> Sunrun specifically requests the Commission make a clear determination of its intent to make the full capacity potential of BTM storage available to the market. Such a determination should include an official recommendation that the [California Independent System Operator ("CAISO")] modify its PDR and RDRR tariffs to remove the restrictions that limit RA capacity eligibility to load curtailment.[19]

Parties' comments on this issue do not raise any new arguments or positions Sunrun's proposal does not already address. As always within the RA program, change must occur at CAISO and the Commission (and sometimes at the CEC) in order for sensible policy to move forward.

In addition, some parties raise the issue of wholesale energy settlement as a barrier to Sunrun's proposal.[20] Here again, Sunrun has already addressed this issue. As stated at the March 12, 2019, workshop, Sunrun believes DERs receiving capacity credit via PDR for their export potential would necessarily need to forfeit any wholesale energy settlements at least for that portion of battery discharge. As noted in Sunrun's proposal at the March 12th workshop, ISO-New England simplifies the question by providing capacity value to the *entire* contribution an asset via its Passive Demand Response product, regardless of load reduction or injection but provides *no* energy settlement. Sunrun would not oppose a rule establishing as much—both at the Commission and at CAISO—to ensure incrementality, avoid double-payment and reduce the need for federal oversight.

Another paper barrier a few parties raise is interconnection.[21] The main practical value of interconnecting under a utility's Wholesale Distribution Access Tariff ("WDAT") for RA purposes is to ensure the deliverability of generators—typically front-of-the-meter, central

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19 Sunrun Track 3 Proposal at 12.
20 IEPA Comments at 5; CAISO Comments at 5; SCE Comments at 7-9.
21 IEPA Comments at 7; CAISO Comments at 5.

station generators—to load. If the resource is transmission-constrained, it must either pay for upgrades or suffer a haircut when its Qualifying Capacity ("QC") value becomes an Net Qualifying Capacity ("NQC") value. Sunrun does not believe it makes sense to require BTM resources to prove their deliverability to loads with which they are collocated or to loads they neighbor. This is especially true under the current paradigm where the CEC and Commission already attribute deliverability to these resources by excluding them from the load forecasts used to set LSEs' procurement requirements. That is, assuming deliverability from generators collocated with load would not have the effect of infringing on deliverability already granted to central station generators.

Finally, in discussing Sunrun's proposal, CAISO recommends the Commission "pursue more dynamic, time-variant rates that signal grid needs, flatten the load curve and help address distribution grid needs."[22] Sunrun does not disagree with this approach as an additional means to animate DERs within the RA market. However, the Commission itself appears to disagree that this endeavor is worthwhile at this time, having just rejected a Petition for Rulemaking from the California Solar and Storage Association and others to implement dynamic pricing.[23]

Sunrun's proposal already addresses many of the issues that parties have raised, or, in CAISO's case, parties have proposed complementary approaches that Sunrun would support. Adopting Sunrun's proposal is a reasonable and cost-effective means to increase supply within the RA market, and we urge the Commission to do so.

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[22] CAISO Comments at 3.

[23] D.19-03-002 at 8-9.

IV. PG&E's Proposal to Treat DERs as Supply-Side Resources Cannot Be Adopted Without Corresponding Changes to Ensure DERs Can Participate in the Market.

Under PG&E's approach, an Effective Load Carry Capacity ("ELCC") methodology would apply for both BTM and front-of-the-meter solar,[24] and BTM DERs would no longer be treated as load-modifying resources within the load forecasts that set RA requirements. While not specified in the proposal, Sunrun assumes the same approach would be afforded to battery-paired resources once a QC methodology is developed for those resources. As noted in Sunrun's Opening Comments, PG&E's suggested approach suffers from four key short-comings:

1. It would overcorrect for the incrementality problem Sunrun has identified.
2. It does not clearly explain how self-supply would be "imputed."
3. It relies on a QC counting methodology for BTM or paired resources that currently does not exist.
4. It does not address the inherent contradiction in using a "supply-side" approach to count DERs, which SDG&E and PG&E recommend, with the arguments put forth by various parties like SCE that DERs' participation must be FERC jurisdictional and include interconnection under the WDAT.

Adopting PG&E's approach would require corresponding rules to be created for DERs to actively participate in the market as supply-side resources, including allowing DERs to interconnect via Rule 21 with their deliverability assumed in the context of determining net qualifying capacity.

In addition, some of the comments parties raise in response to Sunrun's PDR proposal can be addressed here since it is really only under PG&E's proposal, and not Sunrun's PDR proposal, that BTM DERs would act as supply-side resources. First, some parties raise performance requirements and the CAISO must-offer obligations with regard to BTM DERs.[25] These parties either miss entirely or discount the fact that BTM generators like combined heat

[24] PG&E Track 3 Proposal at 2.
[25] IEPA Comments at 8; Calpine Comments at 5, 7.

and power resources already participate in the RA markets. Use-limited resources, such as small run-of-river hydro, are also participants. No party has established why BTM DERs should be treated differently.

If individual or aggregated BTM DER resources wanted to participate as dispatchable resources providing firm RA capacity, Sunrun agrees they would need to be subject to the same performance requirements as other dispatchable resources. They would also be subject to the following Commission Rules for MUAs, established in D.18-01-003:[26]

- Rule 5: If one of the services provided by a storage resource is a reliability service, then that service must have priority.
- Rule 6. Priority means that a single storage resource must not enter into two or more reliability service obligation(s) such that the performance of one obligation renders the resource from being unable to perform the other obligation(s). New agreements for such obligations, including contracts and tariffs, must specify terms to ensure resource availability, which may include, but should not be limited to, financial penalties.
- Rule 7. If using different portions of capacity to perform services, storage providers must clearly demonstrate, when contracting for services, the total capacity of the resource, with a guarantee that a certain, distinct capacity be dedicated and available to the capacity-differentiated reliability services.

Thus, the Commission has already addressed these concerns.

IEPA also raises three questions Sunrun already addressed in its opening comments that make sense to address again here in the context of PG&E's supply-side proposal.[27] The answer to all three questions is that, if BTM DERs are treated as supply-side resources, fair and accurate counting methodologies would need to be developed for BTM or paired resources that do not exist. To date, parties' efforts on this issue have largely ignored BTM resources. Sunrun agrees with CESA's procedural approach to hold a workshop on this issue and believes SCE's proposals

[26] D.18-01-003, Appendix A.

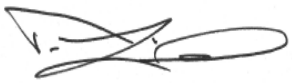
[27] IEPA Comments at 6-7 (asking: 1. How would the RA capacity of a solar+storage facility be measured? 2. What assumption should be made about the discharge schedule of the numerous batteries used in discrete residential solar+storage facilities? 3. Would the facility's NQC be limited to the capacity of the solar component, or would the storage component add an increment of NQC to the facility?).

for front-of-the-meter paired resources are a good starting point for discussions on BTM resources.

V. Conclusion

Sunrun appreciates the Commission's consideration of these comments and looks forward to continuing to work with Staff and other parties on the issues addressed herein.

Respectfully submitted,



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