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Leap Comments on Draft DSGS Guidelines, Third Edition

Additional submitted attachment is included below.

March 22, 2024

California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, CA 95814

Re: Leap Comments on Draft DSGS Guidelines, Third Edition

INTRODUCTION

Leapfrog Power, Inc. ("Leap") is a demand response provider (DRP) founded in 2017 and headquartered in San Francisco, California. The company provides Demand Response (DR) services to residential, commercial, industrial, and agricultural customers throughout the state of California. Through its technology platform, Leap enables distributed energy resource (DER) providers in California to provide grid flexibility, delivering revenue for their customers and integrating additional demand-side resources into the California electricity system. Leap is a registered DRP, as well as a registered Scheduling Coordinator, with the California Independent System Operator Corporation (CAISO).

Leap is grateful for the opportunity to provide comments on the California Energy Commission's (CEC's) Demand Side Grid Support (DSGS) Program Proposed Draft Guidelines, Third Edition ("Draft Guidelines"). Leap gained substantial experience participating in DSGS Option 3 this past year, enrolling 778 of the 1,296 participants in that option. These enrollments represented roughly 8 MW of battery nameplate capacity, about 76% of the 10.4 MW of nameplate capacity this option provided to the grid. Leap aims to continue expanding its participation in DSGS in 2024, and it appreciates the CEC's efforts to adjust parts of the program to streamline participation going forward.

Overall, Leap is supportive of the modifications that the CEC proposed. In particular, Leap supports the CEC's proposal to include bidirectional charging for electric vehicles ("EVs") in Option 3. EVs have the potential to provide an incredibly valuable resource to the grid, and enabling compensation for EV discharges back to the grid through programs like DSGS will be key step forward to realizing this potential.

In addition, Leap offers the following feedback on the Draft Guidelines.

I. The CEC should consider several minor tweaks to the Draft Guidelines to avoid confusion and streamline participation

The Draft Guidelines establish a new deadline to submit enrolled participation reports to the CEC three days prior to the start of the delivery month. This deadline makes sense to Leap and should help simplify both the enrollment and settlement processes. That said, Leap suggests that there be a mid-month enrollment deadline on

the 15th of the month. This would enable providers to participate those devices that were just a couple of days late and missed the first deadline before the start of the month.

This mid-month enrollment window is in line with other DR programs in the state. In the Resource Adequacy (RA) construct, DRPs may adjust their supply plans during the delivery month so they can most accurately reflect the capacity that they can bring to bear. In terms of settlement, Demonstrated Capacity would be calculated for all events in a month, even if they occurred prior to the start date of any devices that enrolled mid-month.

Leap also appreciates the proposed modification to the required participant data that the Draft Guidelines specified should be submitted to the CEC. We understand that under the current proposal, providers would need to provide SAID and/or service account address to the CEC, but are not required to submit both. In addition, Participant name and contact information (phone number and email address) would no longer be required to be submitted. Chapter 2.D notes these changes to the requirements; however, Chapter 5.B still states that Participant name and contact information is required to be submitted. Leap requests that, before approving the Draft Guidelines, the CEC correct the language in Chapter 5 to be in line with Chapter 2 for the avoidance of confusion.

Finally, Leap would like to point out that the Guideline's use of the term "stationary storage" can be unintentionally limiting. Several companies in California provide energy storage products positioned on movable structures so that they can be transported to EV charging stations, remote construction sites, or other places where they might be needed. Because these "mobile storage" systems will also be connected to the distribution system when they are at or between worksites, they are also good candidates for participation in DSGS. However, the term "stationary storage" creates ambiguity around whether these types of storage systems would be allowed. To avoid confusion, Leap suggests the Draft Guidelines replace the term "stationary storage" with "distributed storage" or "distribution-connected storage," or include a footnote identifying that batteries that are not fixed to a specific location would still be considered "stationary storage."

II. The CEC should adjust the Demonstrated Capacity calculation to avoid penalizing participants who 'opt-out' of an event

Based on its participation in 2023, Leap would recommend a modification to the Option 3 performance measurement methodology, which currently measures performance as the weighted average discharge across all program events in a given month. Because performance is measured as an average across all events, batteries that have "negative" hourly performance in an event (i.e. by charging or by discharging less than their baseline) will reduce overall Demonstrated Capacity across the month by lowering the average against which participants are compensated, essentially cancelling out "positive" performance in other hours. This amounts to a financial penalty the DSGS participants, which runs counter to the spirit of a 'pay-for-performance' program like DSGS.

Leap understands that the purpose of this "penalty" structure is to discourage batteries from charging during DSGS events. While Leap does not agree that there should be any penalty in a true 'pay-for-performance' program, we understand the CEC's position of not compensating resources if they end up aggravating grid stress during emergencies rather than alleviating it. However, some batteries' participation in Option 3 (e.g. those

receiving SGIP funds or a host utility's permission to operate before July 1, 2023) have non-zero baselines, effectively assuming they are already discharging some portion of their capacity during events. These resources would be penalized if they fail to discharge, or discharge less than what was assumed in their baseline.

This de facto penalty would undermine DSGS' status as a 'pay-for-performance' program, which risks negatively affecting customer participation by discouraging customers from enrolling resources with non-zero baselines in DSGS. To address this, Leap recommends adjusting the Draft Guidelines so that only batteries actively charging during a DSGS event register negative hourly performance. Resources that fail to discharge or that discharge less than their expected baseline in any given event hour should have their hourly performance floored at zero. This will still ensure batteries are encouraged to discharge during events, but it will avoid creating a financial penalty if batteries must "opt out" from certain events for whatever reason.

Attachment A below provides redline edits to the relevant section of the DSGS Guidelines (Second Edition) for the CEC's reference. In addition, the below describes formulaically what this would look like.

$$\frac{sum((Performance_h)LMP_h)}{sum(LMP_h)}$$

Where $Performance_h$ is defined as:

if ($Discharge_h$ - $Baseline_h$) < 0 and $Discharge_h \geq 0$

then $Performance_h = 0$

else $Performance_h = (Discharge_h - Baseline_h)$

III. The minimum aggregation limits are adequate as written

The CEC workshop presentation asked participants to speak to the current aggregation minimums for Option 3 participants. Leap feels that the aggregation minimums were well-structured in 2023, striking the right balance between administrative and DSGS provider burden. For that reason, we believe the same minimum aggregation requirements should be maintained for the 2024 program year, with 500 kW per investor-owned utility (IOU) territory and 100 kW per publicly owned utility (POU) territory.

Notably, Vehicle-to-X (V2X) participants should be grouped together with distributed storage for the minimum aggregation thresholds. They can be evaluated separately, but it would be nearly impossible to achieve the minimum requirements with V2X alone, even if all V2X participants in the program pooled together into one aggregation. This is a result of the nascent state of that industry. In addition, Leap is strongly supportive of the UL-1741 SB exemption for V2X participants. Requiring UL-1741 SB certification would pose a significant hurdle to participation in this option and undermine the goals of the program to serve as a pilot to test out new technologies.

I. In the future, the CEC should consider including a "net export" measurement approach in Option 3 to allow for dual participation with RA

The Draft Guidelines forbid customers from participating in DSGS Option 3 if they are also enrolled in market-integrated DR programs with the CAISO, unless that customer uses a "gross baseline" performance calculation methodology to isolate the impact of the battery from the rest of the site's load. This seems intended to prevent "double counting" a single battery's load reduction in two separate programs, which is an understandable concern. However, the "gross baseline" solution is unfortunately unworkable for most DSGS participants given the technical and administrative challenges of employing this methodology under CAISO tariff Section 4.13.4.

This creates a significant restriction on DSGS participation. As many stakeholders have pointed out, there is a large amount of overlap between customers participating in RA with a connected or controllable device, such as a thermostat, and those that have (or are likely to purchase) a distributed battery. For example, a customer with both a smart thermostat and a distributed battery would not be able to fully utilize both resources under the current situation. They would either need to participate the battery in DSGS and forgo the grid value of their smart thermostat, or they would need to participate both the smart thermostat and battery in RA and forgo the value of that battery's exports to the grid (which are currently not compensated in the RA program).

Leap believes this issue could be addressed by implementing a different dual participation model that credits only "net exports" from batteries owned by customers that are participating in RA. In this approach, a battery's discharge would be credited towards that customers' performance in RA *only up until that discharge zeros out their site load.* Any discharge from the battery past the site load would then be credited towards performance in DSGS, as this additional discharge would be exported back to the grid. Because RA doesn't credit grid exports, there would be no risk that this additional discharge would be "double counted" in both programs.

To provide a better sense of how this would work, Leap offers the following example: Imagine a residential customer has a battery capable of discharging 5 kW, and the customer participates that battery in both RA and DSGS Option 3. During a hot day in August, a DSGS event is called for the same day that the customer's bid into the CAISO day-ahead market is picked up. The customer's household load during this event is 2 kW, and she discharges her battery's full 5 kW of capacity in response to the event. The first 2 kW of that discharge zeros out the customers' household load and is credited towards their RA performance. The remaining 3 kW of discharge is exported back to the grid and credited in DSGS.

"Net Export" Measurement Example

Max Battery Discharge	5 kW
Household Load	2 kW
PERFORMANCE DURING EVENT	
RA Performance (limited to covering household load)	2 kW
DSGS Performance (battery capacity minus household load)	3 kW

This approach would allow customers with battery installations to enroll in DSGS while also participating resources like smart thermostats in RA, since these resources would reduce their overall site load during events and enable more of their battery's discharge to be compensated in DSGS as exports. It would also be easier for third-party aggregators to implement, since these aggregators would already have access to customer meter data via their enrollment in RA. It would be a fairly simple calculation for them to subtract out the household's load from the battery's total discharge to determine the amount of exported energy that would be compensated under DSGS – a calculation that the CEC could confirm through a data request to CAISO.

This would be an easier system to implement as it would essentially just require DSGS/RA participants to properly calibrate their nominations in both programs. Aggregators today are already setting their resource nominations in RA to be in line with the customer's expected household load during events, since this is the maximum performance that the RA construct will compensate them for. Under this approach, they would then nominate any "leftover" battery capacity in DSGS. Although the latter nomination may need to be conservative to address uncertainty in the customers' load at any given time, this would still provide a substantial amount of additional revenue for the customer, motivating them to make sure all their resources are used to their fullest potential.

This approach would likely take time to fully flesh out, and Leap does not recommend attempting to include it in the DSGS Guidelines for this season. Attempting to do so would undoubtedly push the start date for the program this season past the May target, and meeting this May target should be the CEC'S priority. However, implementing this approach in a future iteration of the DSGS Guidelines in 2025 should be feasible, and Leap suggests that the CEC begin exploring it now so that it will be ready to put in place for the next DSGS season.

II. The CEC should work with stakeholders and sister agencies to create an 'offramp' for DSGS resources in 2026

Leap appreciates the collaborative process that the CEC has taken with stakeholders to try out new methods of grid services participation – in particular, the novel enrollment flow and use of device level data, as well as a static baseline that are all included under Option 3. Leap strongly encourages the CEC to work with sister agencies to translate the learnings from the DSGS program into other DER programs with the ultimate goal of creating a viable pathway for battery-based Virtual Power Plants (VPPs) to be visible to the CAISO in the energy market and visible to the CPUC for Resource Adequacy. Both will help ensure long-term sustainability of these incentives and the provision of reliable capacity to the state.

CONCLUSION

Leap appreciates the CEC's consideration of its feedback and looks forward to the release of the final DSGS Guidelines in late April and approval in May. It believes the Draft Guidelines, with the adjustments discussed above, will enable a highly successful DSGS season, with additional opportunities past 2024 to refine and expand the program even further.

Respectfully submitted,

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ATTACHMENT A

- *At page 25*, *Chapter 5*, *Section E:* "Demonstrated capacity shall be defined as the weighted average discharge (less the baseline), where the weights are given by the relevant LMP across all program event (or test) hours in a participation month. In situations where a battery's discharge is greater than or equal to zero, but less than its baseline, its hourly performance will be zero.