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May 11, 2023

**Sunrun Inc. and Leap Comments on  
Draft Demand Side Grid Support Program Guidelines, Second Edition  
Docket No. 22-RENEW-01**

Sunrun Inc. and Leap (hereafter Joint Parties) respectfully submit these comments on the Draft Demand Side Grid Support (DSGS) Program Guidelines, Second Edition.<sup>1</sup> These recommendations are intended to help the California Energy Commission (CEC) establish an effective distributed energy resource (DER) program that can provide meaningful grid support during times of grid stress, and that can incentivize broader participation as soon as possible.

These comments focus on the need for (1) quick implementation of revised DSGS guidelines—and in particular, the new Program Option 3—in time to leverage significant resources for summer 2023, (2) Program Option 3 compensation levels that reflect current market conditions and align with other successful grid services programs in California and across the country, (3) an efficient and effective compensation payment distribution process, managed by the DSGS provider, (4) a fixed cap of 35 events to ensure that customers and aggregators are induced to enroll and operate their resources in DSGS to benefit all ratepayers, (5) the elimination of the CCA/POU permission requirement for third-party aggregators to become DSGS providers, (6) additional clarity regarding the items that should be included in any Customer Agreement Form, and (7) confirmation that the program hours are from 4pm to 9pm. All of these program design elements will strengthen the current DSGS program and open the door to increased participation by third-party aggregators like the Joint Parties.

**I. The New DSGS Guidelines Should Be Implemented In Time For Summer 2023.**

As an initial matter, the Joint Parties applaud the CEC’s efforts to work expeditiously to finalize these new DSGS program guidelines as soon as possible. Given the state’s recent history of significant capacity constraints during the summer months, the CEC should prioritize finalizing DSGS program guidelines in advance of summer 2023, such that DSGS providers are able to mobilize participation starting as soon as possible.

Implementing this new iteration of the DSGS program, including in particular the new Program Option 3, in advance of summer 2023 would allow the state to onboard potentially thousands of new assets into this program, and to access much needed firming capacity during extreme grid conditions. The Joint Parties currently have visibility into approximately 150 megawatts (MW) of dispatchable demand response (DR) capacity across the investor-owned utility (IOU) and publicly-owned utility (POU) territories that could be brought to the state as soon as opportunities are available across each of the load types, as reflected in the following table.

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<sup>1</sup> Docket No. 22-RENEW-01, *Demand Side Grid Support (DSGS) Program Guidelines, Second Edition*, CEC (April 21, 2023) (DSGS Guidelines).

**Table 1. Joint Parties’ Current Dispatchable Demand Response Capacity**

<b>Technology</b>	<b>Asset Count</b>	<b>Capacity (MW)</b>
Residential Energy Storage	15,000	60
Residential Electric Vehicles	10,000	15
Residential Air Conditioning	50,000	50
Commercial Air Conditioning	1,000	20

This table shows the number of currently installed assets amongst the Joint Parties and their associated curtailable load that is currently not participating through any DR program in California. These are already developed, installed, and operating assets that are otherwise not being utilized for any grid services and that could be deployed under the DSGS Program Option 3. The Joint Parties also expect these figures could become significantly higher with additional time to recruit more partners and end customers. Sunrun’s portfolio and Leap’s partner ecosystem—including companies such as Optiwatt (electric vehicles) and Resideo (smart thermostats)—contain thousands of assets that could be onboarded into this program. If implemented well, it is reasonable to expect that the total potential is multiple hundreds of MWs. While the Joint Parties recognize the challenge associated with creating and finalizing program guidelines for load types beyond energy storage for this summer, and support the prioritization of energy storage, we strongly believe that expanding Program Option 3 to include additional load types for 2024 should be a top priority of the CEC.

The DSGS Program Guidelines do not identify any specific barriers to opening participation to Program Option 3 in advance of summer 2023, and simply state that the CEC “will notify interested parties when each incentive option is open for enrollment.”<sup>2</sup> Our industry stands prepared to provide these resources for summer 2023. Finally, to the extent that enrollment for Option 3 is not opened at the beginning of the summer, there is a significant risk that enrollment in 2023 will be below expectations unless the resources are compensated at higher levels. In order to recruit customers, more than a few months of compensation are necessary. As such, if a delay in implementation occurs the Joint Parties recommend ensuring a full season’s worth of compensation is available for resources during the months in which they are allowed to participate.

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<sup>2</sup> DSGS Guidelines, p. 2.

## II. DSGS Compensation Levels Should Reflect Current Market Conditions And Align With Other Successful Grid Services Programs in California and Across the Country.

As the Joint Parties' Revised Proposal<sup>3</sup> illustrated, capacity payment amounts at the levels laid out in the Guidelines for Program Option 3<sup>4</sup> do not accurately capture current and expected future market conditions, and are out of step with compensation levels provided through similar programs across the country. At these levels, it will be difficult to assign internal operational resources to this program. The CEC should revise the Guidelines' capacity payment levels in line with market realities and other successful grid services programs to ensure program compensation will be sufficient to drive both participation and long-term investment by companies into the program. The Joint Parties would like to see the state move away from pilot-based DR programs and instead work towards a sustainable and consistent statewide DR option that businesses can reliably plan around to drive multi-decade investment. The Joint Parties believe that DSGS can be that program, but the payment levels must be increased to drive long-term participation from companies.

For the DSGS program to be effective, support maximum participation, and create a long-term resource, it must compensate participants at levels that reflect current and expected future market conditions. Relying exclusively on historical data to set compensation levels is especially problematic given that the state's bilateral resource adequacy (RA) pricing has dramatically increased in the past five years, rising from approximately \$35/kW-yr to more than \$200/kW-yr between 2018 and 2024. In this context, the CEC's use of the RA report for calendar year 2021 as a reference, even with the adopted multiplier, is not at all indicative of the current RA market.

To capture current market conditions, the Joint Parties have recommended that capacity payments be set at \$122 per kilowatt (kW) per season for 2-hour resources, \$145 per kW per season for 3-hour resources, and \$160 per kW per season for 4-hour resources, as laid out in the Joint Parties' Revised Proposal and shown in the table below.<sup>5</sup> These payments accurately reflect the costs—and therefore the value—associated with bringing on incremental system capacity, based on prevailing RA capacity market pricing between 2023 and 2025 and expectations of increasing system peak.<sup>6</sup>

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<sup>3</sup> Docket No. 22-RENEW-01, *Sunrun and Leap Revised Proposal – DER Program Design*, pp. 16-18 (March 17, 2023) (Joint Parties Revised Proposal).

<sup>4</sup> See DSGS Guidelines, p. 17.

<sup>5</sup> Joint Parties Revised Proposal, pp. 16-17.

<sup>6</sup> Form 1.5b Total STATEWIDE Coincident Peak, *available at* [CED 2022 LSE and BA Planning Forecast Tables - corrected 3-30-2023](#).

**Table 2. Joint Parties’ Proposed Pricing Structure for Program Option 3**

Month	2-hour*	3-hour	4-hour
June	\$13.71/kW	\$16.28/kW	\$18/kW
July	\$15.23/kW	\$18.09/kW	\$20/kW
August	\$35.03/kW	\$41.61/kW	\$46/kW
September	\$38.08/kW	\$45.22/kW	\$50/kW
October	\$19.80/kW	\$23.52/kW	\$26/kW

Setting compensation levels at these values would also bring the DSGS program in line with other successful grid services programs in California, and closer to the compensation levels provided via programs across the country, more broadly. In California, for instance, the Emergency Load Reduction Program (ELRP) provides a helpful reference point. For a 10 kWh 2-hour battery participating in ELRP, the current ELRP energy payment rate of \$2/kWh would translate to an equivalent capacity rate of \$140/kW/year<sup>7</sup>—a higher compensation level than the Joint Parties’ DSGS recommendation of \$122/kW/yr. It is also important to point out that DSGS Option 3 provides a more advanced product compared to ELRP due to the more stringent dispatching requirements in DSGS Option 3. For example, in 2022 there were 10 ELRP dispatches under Group B.1. If DSGS Option 3 had existed at that time, there would have been 16 dispatches, not including any test events.<sup>8</sup> These differences are relevant when comparing the DSGS and ELRP payment levels.

Translating the Guidelines’ proposed DSGS capacity payment rates into their equivalent energy payment rates also demonstrates the degree to which these capacity payments would undervalue these resources and potentially favor ELRP over DSGS. For example, assuming a 10 kWh 2-hour battery, a \$62.10/kW-year capacity payment under Program Option 3,<sup>9</sup> and battery dispatch 35

<sup>7</sup> See *Statewide Residential Emergency Load Reduction Program Baseline Evaluation*, Demand Side Analytics (January 2023), [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/emergency-load-reduction-program/statewide\\_a6\\_elrp\\_baseline\\_evaluation\\_report\\_01172023.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/emergency-load-reduction-program/statewide_a6_elrp_baseline_evaluation_report_01172023.pdf).

Calculation: There were 10 ELRP events last year. Assuming a 10kWh 2-hour battery, the total energy payment would be:  $10 * 10\text{kWh} * \$2/\text{kWh} = \$200$ . This translates to an equivalent capacity rate of  $\$200/5\text{kW} = \$40/\text{kW}/\text{yr}$ . However, ELRP is triggered by EEA alerts only, which are infrequent as compared to the frequency of  $\text{LMP} > \$200/\text{MWh}$  in the CAISO day-ahead market. If the ELRP program was also dispatched 35 times a year, the equivalent capacity rate would be  $\$140/\text{kW}/\text{yr}$  ( $35 * 10\text{kWh} * \$2/\text{kWh} / 5\text{kW}$ ).

<sup>8</sup> Based on CAISO Day Ahead clearing prices for TH\_NP15\_GEN-APND Node there were 16 days between June 2022 and October 2022 with at least one hour between 4-9pm that cleared above \$200/MWh.

<sup>9</sup> DSGS Guidelines, p. 17.

times in a year, the total capacity payment would be \$310.50 and the total energy delivered would be 350 kWh, translating to an equivalent energy payment rate of \$0.887/kWh.<sup>10</sup> This capacity payment compensation level under DSGS Program Option 3 is therefore significantly lower than the \$2/kWh compensation level the same resource would be awarded under DSGS Program Option 1.<sup>11</sup> This disparity is even worse assuming a 10 kWh 4-hour battery, a \$82.80/kW-year capacity payment under Program Option 3,<sup>12</sup> and battery dispatch 35 times in a year. Under this scenario, the total capacity payment would be \$207 and the total energy delivered would be 350 kWh, translating to an equivalent energy payment rate of \$0.60/kWh.<sup>13</sup>

Additionally, compensation levels awarded through various aggregated DER, virtual power plant (VPP), and bring-your-own-device (BYOD) programs across the country establish helpful guideposts for California’s DSGS program. As shown in the table below, the Guidelines’ proposed capacity payments do not reflect the current program landscape customers are seeing in similar types of programs—and even the Joint Parties’ proposed pricing is *significantly below* that of comparable programs around the country.

**Table 3. Examples of Aggregated DER, VPP, and BYOD Program Compensation Levels**

State	Utility	Program	Compensation
California	Pacific Gas & Electric, Southern CA Edison, San Diego Gas & Electric	Emergency Load Reduction Program	\$2/kWh for every kWh of electricity consumption the customer reduces voluntarily during an ELRP event. As explained above, this compensation level is in line with a \$140/kW capacity payment.
Connecticut	Eversource	Connected Solutions – Targeted Seasonal	\$225/kW-summer (avg. per peak event), locked in for five years.

<sup>10</sup> Calculation: Assuming a 10 kWh 2-hour battery, the total capacity payment would be \$62.10/kW/yr \* 5kW = \$310.50. In this scenario, the total energy delivered would be 35 \* 10kWh = 350 kWh. This translates to an equivalent energy payment rate of \$0.887/kWh.

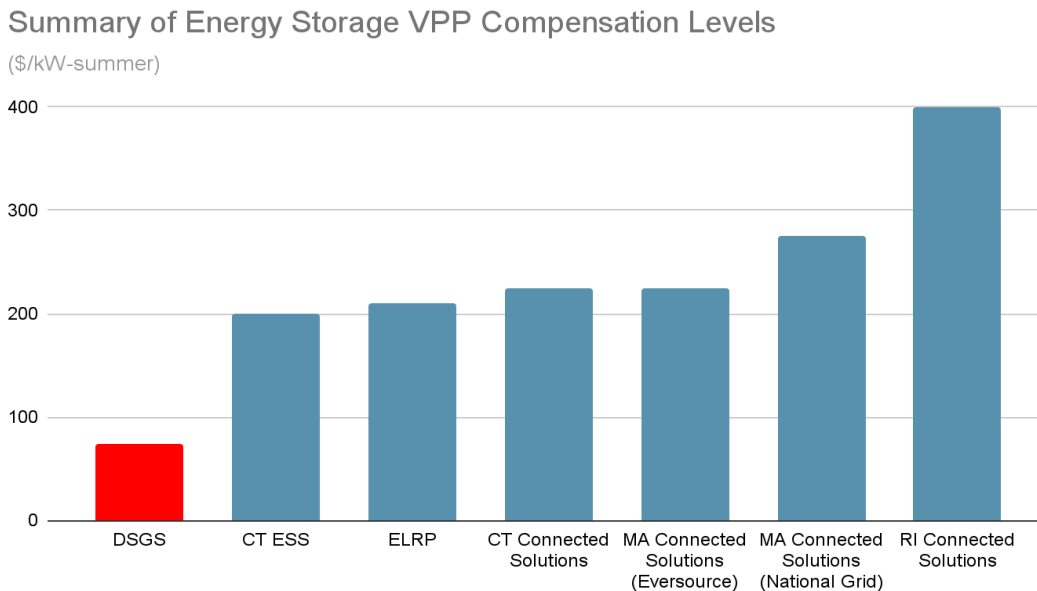
<sup>11</sup> DSGS Guidelines, p. 8.

<sup>12</sup> *Id.*, p. 17.

<sup>13</sup> Calculation: Assuming a 10 kWh 4-hour battery, the total capacity payment would be \$82.80/kW/yr \* 2.5kW = \$207. In this scenario, the total energy delivered would be 35 \* 10kWh = 350 kWh. This translates to an equivalent energy payment rate of \$0.60/kWh.

State	Utility	Program	Compensation
Connecticut	Eversource UI	Energy Storage Solutions (ESS) Program for Homes	<u>Upfront Incentive:</u> \$200/kWh (Standard), \$300/kWh (Underserved), \$400/kWh (Low-Income) for 10-year commitment.  <u>Performance Payment:</u> \$200/kW (summer), \$25/kW (winter), based on average kW-AC contribution during the season, determined by actual system performance during called events.
Connecticut	Eversource UI	Energy Storage Solutions (ESS) Program for Businesses	<u>Upfront Incentive:</u> \$200/kWh (Small Commercial), \$175/kWh (Medium Commercial), \$100/kWh (Large Commercial) for 10-year commitment.  <u>Performance Payment:</u> \$200/kW (summer), \$25/kW (winter), based on average kW-AC contribution during the season, determined by actual system performance during called events.
Massachusetts	National Grid, Cape Light Compact	Connected Solutions – Residential	\$275/kW-summer, locked in for five years.
Massachusetts	Eversource	Connected Solutions – Residential	\$225/kW-summer, locked in for five years.
Massachusetts	Eversource, Cape Light Compact	Connected Solutions – Daily Dispatch (Commercial)	\$200/kW for dispatch on a daily basis (summer only), locked in for five years.
Rhode Island	Rhode Island Energy	Connected Solutions – Residential	\$400/kW-summer season (avg. per peak event), locked in for five years.

**Figure 1. Chart of Aggregated DER, VPP, and BYOD Program Compensation Levels<sup>14</sup>**



Generally, all of these programs are performance-based programs that provide capacity payments at significantly higher levels than those proposed for DSGS Program Option 3. In the case of the ELRP, the program provides a performance-based *energy* payment that, when translated to a comparable capacity payment, is significantly higher than the proposed Program Option 3 compensation levels. Finally, it is worth noting that many of these programs across the country provide compensation rates that are locked in for a definite time period, which further strengthens the customer incentive to participate.

The DSGS program compensation structure should be designed consistent with these other California grid services efforts as well as those successfully inducing participation across the country. The Joint Parties’ recommended compensation levels for Program Option 3 are proposed with this vital context in mind. In the event that compensation levels for DSGS are set too low, programs in other parts of the country are likely to be prioritized, leading to subpar enrollment levels.

**III. DSGS Providers Should Manage The Payment Distribution To The Customer.**

DSGS providers are well-positioned to manage the payment distribution process and to interface directly with customers on payment levels. The DSGS program should therefore be designed such that DSGS providers receive the entire payment from the CEC, and then disburse payment amounts directly to their participating customers. For example, in an ideal structure, a third-party aggregator DSGS provider like Sunrun and Leap, with resources enrolled under Program Option 3, would submit a claim package to the CEC, receive all eligible payments directly from the CEC, and then

<sup>14</sup> Compensation levels shown reflect 3-hour resources for all programs. ELRP calculation: if the ELRP program was also dispatched 35 times a year, the equivalent capacity rate for a 3-hour, 10 kWh resource would be \$210/kW/yr (35 \* 10kWh \* \$2/kWh / 3.33kW).



award program participants (*i.e.*, customers) payments in line with the program participation parameters previously negotiated between the provider and the participant.

The DSGS Guidelines seem to contemplate this structure, but there appears to be some ambiguity in the Guidelines with respect to the incentive payments to be disbursed to participants. The Guidelines state that “DSGS providers shall pay eligible incentive amounts directly to their participants and submit to the CEC claims for administrative costs and incentive payments.”<sup>15</sup> The Joint Parties are concerned that these Guidelines are ambiguous as to whether 100 percent of the incentive payment must be awarded to the participant (as opposed to some portion of the payment being retained by the DSGS provider). While the former structure may fit the original Guidelines in which POU’s were the only DSGS providers, it is less applicable in the context of third-party aggregators serving as DSGS providers.

The Joint Parties therefore urge the CEC to clarify that the Option 3 program structure is as follows:

- **DSGS Provider** - program operator that can be a CCA, POU, or third-party aggregator.
  - Note that the definition for DSGS providers in the Glossary<sup>16</sup> does not explicitly state that third-party aggregators can be providers, though the description in the DSGS Program Eligibility section does specify that third-party aggregators can serve as providers;<sup>17</sup> this inconsistency should be resolved in the final Guidelines.
- **DSGS Participant** - individual customer participating in DSGS.
- DSGS providers will interact with both the CEC (or its Administrator) and the participants regarding all program operational requirements. Providers will enroll as providers with the CEC, enroll participating customers, provide reports on enrolled participation, pay participants (in line with the program participation parameters previously negotiated between the provider and the participant), and submit payment claims to the CEC. In addition, they will manage the VPP (dispatch it, measure performance, and provide data).

This program design will provide the necessary parameters and flexibility for third parties to serve as providers. This structure, along with the increased compensation levels described in Section II, will result in reasonable and attractive compensation for both customers and third-party providers.

#### **IV. The DSGS Program Design Should Include A Fixed Cap On The Number of Events.**

The DSGS program design should include a fixed cap on the number of DSGS events to ensure customers do not lose out on value they could otherwise derive from their systems. While the Guidelines do include a maximum event cap of 35, they also provide that “[i]f a given resource is called more than 35 times within the program months, the 35 events with the highest performance shall be used to determine demonstrated capacity.”<sup>18</sup> This program design may cause customer confusion and result in participants dispatching in ways that are not in their economic interest. In

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<sup>15</sup> DSGS Guidelines, p. 19.

<sup>16</sup> *Id.*, p. 32.

<sup>17</sup> *Id.*, p. 19.

<sup>18</sup> *Id.*, p. 17.

an extreme scenario in which 100 events were called, the equivalent price paid for curtailment from a 4-hour resource would be \$0.21/kWh.<sup>19</sup>

For example, net billing tariff (NBT) customers responding to these additional DSGS events (beyond the initial 35) would be dispatching their battery inconsistent with optimal NBT dispatch, from a customer bill savings perspective. This would result in the customer receiving little to no additional compensation through the DSGS program, while simultaneously losing the value they could have captured by self-consuming in line with an optimal NBT battery profile. Even with DSGS pricing at the Joint Parties' recommended level of \$122 per kW for a 2-hour battery, any further value the participant could receive would not outweigh the battery degradation and opportunity cost of responding to the event.

The DSGS program structure should protect against this result by capping the DSGS events at 35, *i.e.*, not calling resources more than 35 times. To the extent the CEC determines that a fixed cap of 35 events is not desirable or feasible, then the Joint Parties would recommend pricing above their current recommendation of \$122 per kW to ensure customers are adequately compensated for foregoing the other sources of value from their systems.

#### **V. The CEC Should Clarify the LSE Permission Language to Streamline the Enrollment Process.**

A core tenet of Option 3 is that it enables participation of the many thousands of assets that are currently sitting on the sidelines and not participating in DR programs in California due to the onerous ShareMyData process that they must undergo for market participation. The Joint Parties see enrollment rates as low as 2 percent when customers are asked to complete the ShareMyData process.<sup>20</sup>

In addition to streamlining end customer enrollment, the CEC should ensure that the process for third-party aggregators to become DSGS program providers is straightforward and easy. To this end, the CCA/POU permission requirement should be eliminated. The CEC's revised Guidelines require all third-party aggregators to get written permission from each applicable CCA or POU to operate a program in their territory, whereas in IOU territories they must only *notify* the relevant IOU that they intend to enroll customers within the IOU service territory.<sup>21</sup> There is no clear reason for this discrepancy in the LSE permission requirement for third-party aggregators. While it makes sense that third-party aggregators will need to notify and coordinate with all LSEs operating in the service territory in which the third-party aggregator is serving as a provider, a permission requirement for CCA/POU entities is unnecessary. Notably, this permission requirement would stand in contrast to how aggregators and DR Providers currently participate in Supply Side DR through Proxy Demand Resources (PDRs). CCAs do not currently grant permission for their customers to participate as market-integrated PDRs. It is therefore unclear why that constraint should be in place for DSGS, which behaves similarly to a PDR.

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<sup>19</sup> Calculation: Assuming a 10 kWh 4-hour battery, the total capacity payment would be \$82.80/kW/yr \* 2.5kW = \$207. In this scenario, the total energy delivered would be 100 \* 10kWh = 1,000 kWh. This translates to an equivalent energy payment rate of \$0.21/kWh.

<sup>20</sup> Joint Parties Revised Proposal, p. 10.

<sup>21</sup> DSGS Guidelines, p. 2.

In addition to being unnecessary and inconsistent with current state policy, this permission requirement would also add a significant barrier to third-party aggregator participation and thus would pose a potential risk to program success for summer 2023. There are twenty-five unique CCAs currently operating in California.<sup>22</sup> If a third-party aggregator must receive permission from each individual CCA, this could further delay the program start date — potentially until after the critical Q3 period. This permission requirement would also create, unintentionally, a program structure in which CCAs and POUUs could exert anti-competitive, monopoly power as DSGS providers, if they were motivated to do so.

As third-party aggregator DSGS providers, the Joint Parties look forward to coordinating closely and productively with all relevant CCAs, POUUs, and IOUs. As part of that coordination, written notification of intent to enroll customers within these entities' service territories is reasonable, but any written permission requirement should be eliminated. Importantly, a consistently applied written notification requirement would allow third-party aggregator providers and CCAs, POUUs, and IOUs the opportunity to discuss potential collaboration and co-branding to maximize customer benefit.

## **VI. The CEC Should Adopt Specific Criteria For The Customer Agreement Form.**

Third-party aggregators need to enter an agreement with each customer before enrolling said customer in the DSGS program. At a minimum, each customer agreement should meet the following criteria and include:

1. Authorization from the customer to participate with select devices and/or systems in grid services and DR programs. Authorization for specific programs shall not be required, though the customer must be notified of any specific program requirements.
2. A clear and accurate method to disenroll or opt-out.
  - a. Customers should have a simple way to elect to disenroll. Aggregators should provide instructions in the customer agreement, which customers can follow to remove themselves from the program.
3. Authorization from the customer allowing for the use of their device and/or site electric load data for purposes of program participation.
4. Description of instances in which customer data may be used or released by the aggregator outside of program participation, including:
  - a. If disclosure is required by law or court action, including subpoena or warrant.
  - b. In anticipation of legal action, including instances of potential fraud or unlawful uses.
  - c. Confidential disclosure to aggregator partners, service providers, and contractors, as appropriate to maintain program integrity.

Compliant agreements should be able to take any reasonable format used by the third-party aggregator.

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<sup>22</sup> See *CalCCA Advocates for Community Choice in California*, CalCCA, <https://cal-cca.org/about/>.

## **VII. The Option 3 Dispatch Window Should Be Clarified.**

The current Guidelines are unclear on the event window. Both 4-9 pm<sup>23</sup> and 4-10 pm<sup>24</sup> are mentioned on separate pages of the Guidelines. It is the Joint Parties' preference to maintain the originally proposed window of 4-9 pm to limit the impact on battery operations. However, the Joint Parties would be open to an expanded window in order to support higher payment rates.

## **VIII. Conclusion**

The Joint Parties appreciate the CEC's consideration of these comments. The Joint Parties urge the CEC to adopt the recommendations herein to ensure the DSGS program's compensation levels and structure will effectively incentivize increased DSGS participation in the near-term, and look forward to supporting the state's efforts to maintain system reliability during the upcoming summer months.

Respectfully submitted,

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<sup>23</sup> DSGS Guidelines, p. 18.

<sup>24</sup> *Id.*, p. 17.