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Microgrid Resources Coalition Comments on DSGS Revised Program Guidelines

Additional submitted attachment is included below.

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



RE: Docket 22-RENEW-01 Microgrid Resources Coalition Comments on Demand Side Grid Support (DSGS) Revised Program Guidelines and Staff Workshop

I. Introduction

The Microgrid Resources Coalition (“MRC”) is a consortium of leading microgrid owners, operators, developers, suppliers, and investors formed to advance microgrids through advocacy for laws, regulations and tariffs that support their access to markets, compensate them for their services, and provide a level playing field for their deployment and operations. The mission of the MRC is to promote microgrids as energy resources by advocating for policy and regulatory reforms that recognize and appropriately value the services that microgrids offer, while assuring non-discriminatory access to the grid for various microgrid configurations and business models. We generally support disaggregated, fair pricing for well-defined services both from the grid to microgrids as well as from microgrids to the grid. We promote community-based resilience standards and support utilities that are working toward new business models that value resilient distributed resources. We work for the empowerment of energy customers and communities.

The MRC respectfully submits these comments on the Demand Side Grid Support (“DSGS”) revised program guidelines and staff workshop held on April 26, 2023. The MRC greatly appreciates the efforts of the California Energy Commission (“Commission”) to update the DSGS program guidelines based on stakeholder input and lessons learned from previous experiences. This program is important to expand to further incentivize demand reduction and load flexibility services from customers so that California can enhance electric system reliability and mitigate power outage risks now and in the future.

II. Comments on Revised DSGS Guidelines

The MRC largely supports the proposed changes to DSGS outlined in the revised guidelines. Expanding the program eligibility and increasing the number of options for customers and aggregators to participate in DSGS will provide more opportunities for customers to add value to the electricity system and enhance reliability through demand reduction services that can be provided with behind-the-meter (“BTM”) distributed energy resources (“DER”) like microgrids.

Microgrids should be explicitly named as eligible for DSGS incentives in the final guidelines

The MRC would request that the Commission explicitly include microgrids as distinctly eligible for DSGS incentives in the final program guidelines, in addition to backup generators and storage resources, which are called out specifically in the revised guidelines. Microgrids could elect to participate in any of the proposed program options depending on the specific customer and exact location where the project may be sited. Microgrids are an *integrated system* of energy resources and technologies – generation, storage, load management, and controls – that can be optimized for a variety of use cases, including but not limited to: decarbonization, efficiency, resilience, and/or providing grid reliability services. Microgrids are particularly powerful demand management solutions because they may combine one or more of these resources into a single project configuration that serves multiple energy needs (of customers and the grid)

simultaneously. Importantly, microgrids can provide significant load reduction value when called upon and can reliably maintain load reduction for extended periods of time (i.e. greater than 4 hours). This could be done through internal load shedding and more traditional “demand response” methods that may incrementally reduce load to the benefit of the electricity system, but microgrids can also *intentionally island* from the grid to provide “firm load reduction” which will definitively and measurably disconnect the customer’s entire load from the grid to increase electric system capacity during emergency events, capacity shortfalls, or other times of electric grid stress to improve reliability. Microgrids, as an integrated system, can reduce load on the system for long durations of time. And they can do this all while continuing to provide electric service onsite, minimize disruptions to customers, and maintain power for critical and essential operations. Microgrids are a particularly valuable demand side grid support resource because of their capabilities as a system – we encourage the Commission to explicitly call out microgrids as eligible for DSGS.

Option #3 “Market Aware” Incentive should be technology neutral and inclusive of other BTM resources

The MRC greatly appreciates that the Commission has sought to develop a non-market integrated capacity incentive and corresponding price signals for reliability services by creating the DSGS Incentive Option #3 for “Market Aware” BTM Storage. This “market aware” option will help avoid conflicts with the Resource Adequacy (RA) program while enabling DERs to respond to grid needs effectively. This will incentivize customers to make the necessary load reductions when called upon, which can augment the RA program and further assure resource adequacy and grid reliability, without DERs needing to interconnect under the lengthy CAISO process, or otherwise interfering with the mechanics of that program.

The MRC supports the goals and structure of the Market Aware Option #3. However, the MRC does not agree that this program option should be exclusively for battery storage or only consider short-duration resources up to 4 hours. The DSGS program options should be technology neutral and focus on providing compensation for reliability services rendered to the electric system. Option #3 should allow for any BTM demand reduction resources to participate, so long as they are achieving the specific performance goals, metrics, and desired outcomes that are clearly laid out in the DSGS program guidelines.

For example, a BTM microgrid that might incorporate solar + storage + green hydrogen resources into one configuration could easily provide extended load reduction and capacity to the system for longer durations of time, well in excess of 4 hours. The same could be said of BTM combined heat and power (CHP) microgrids, which may use different types of fuels (conventional and renewable) at high efficiencies and are commonly found at hospitals and industrial facilities with thermal heating needs. These clean fuels can also act as long duration energy storage resources to support electric system reliability needs. Many thermal loads are managed today with sophisticated software and building energy management systems that help optimize energy consumption and load reduction. Many of these resources are deployed today already, oftentimes interconnected with other onsite renewables, but the full potential of these thermal energy resources’ load management capabilities is not being actively utilized by the electric grid.

Many BTM customer resources – including but not limited to battery storage – can provide the demand side grid support and reliability services sought from this program for both shorter and longer durations of time. The DSGS program (and others created pursuant to AB 205) should be developed to incentivize performance *outcomes*, not specific *technologies*, that can achieve California’s reliability goals. The MRC strongly encourages the Commission to be more inclusive and specify that all BTM resources that can provide the necessary load reduction and reliability performance services outlined in the program guidelines are eligible for DSGS Option #3 and we propose it should be renamed the “Market Aware BTM Resource Incentive”.

Option #3 “Market Aware Incentive” should be expanded to add corresponding incentive levels for BTM resources that can provide reliability services for extended durations of more than 4 hours

As discussed above, there are many BTM resources that can provide valuable load reduction and reliability services to the electric system in times of state emergency events, local and regional grid stress, or when called up to support other power system needs. Many BTM resources – especially those configured as microgrids – can perform these services for extended periods of time and greatly exceed the shorter durations originally contemplated by this incentive proposal. The MRC urges the Commission to expand Option #3 in the final DSGS program guidelines by developing additional corresponding incentive levels for BTM resources that have longer energy storage durations, extended dispatch capabilities, and can otherwise perform the needed grid support and reliability services for more than 4 hours in duration.

The Commission can easily expand upon its Option #3 “Market Aware” proposal beyond the 2–4-hour duration incentives outlined in the proposed revised guidelines. The 4-hour duration incentive value can serve as a baseline or point of demarcation between “shorter duration” and “longer duration” BTM resources. Additional durations can simply be added on a step-up basis in anywhere from 4-hour to 8+-hour increments with incentive values that increase based on the corresponding length of time or duration that the BTM resource is performing during an emergency event until it is deemed over. At a certain point, perhaps at the 8 or 12-hour level, the time increments could be widened such that 8-12-hour duration is assigned one incentive value, 12-16-hour duration is assigned another, and so on... This could be done all the way up to 24+ hours or more.

Essentially, the longer the BTM resource can perform the reliability services needed, the higher the compensation it should receive for providing those electric system support services.

An illustrative example of the MRC’s proposal is shown below adding to the Commission’s table from the DSGS workshop. The figures added to the table are simply to demonstrate how the Commission could expand upon its base incentive framework to include longer duration resources. The MRC does not propose any specific incentive values and the figures below are for illustrative purposes only.

Month	24+ - Hour	12-24 - Hour	8-12 - Hour	4-8 -Hour (1.5x 4-hr \$)	4-Hour	3-Hour	2-Hour
May	\$21.00	\$18.50	\$16.00	\$13.50	\$9.00	\$8.10	\$6.75
June	+	+	+	+	\$9.30	\$8.37	\$6.98
July	+	+	+	+	\$16.80	\$15.12	\$12.60
August	+	+	+	+	\$18.00	\$16.20	\$13.50
September	+	+	+	+	\$19.20	\$17.28	\$14.40
October	+	+	+	+	\$10.50	\$9.45	\$7.88
Season					\$82.80	\$74.52	\$62.10

Again, the MRC does not propose that these exact numbers should be the final incentive values for the program. While the Program Guidelines did not explain how the proposed figures were arrived at for the shorter duration incentive values in the revised guidelines, we encourage the Commission to incorporate the MRC’s considerations here and use its methodology to suggest a set of final incentive values for BTM resources that can perform reliability services for longer durations. The MRC suggests that the Commission

establish time duration-based incentives for this option that increase in value as described herein but may be subject to the same bid cap as other options.

The MRC believes that each additional hour of load reduction service and/or reliability performance from a BTM resource becomes increasingly valuable to the electricity system during emergency events or increased grid stress that may be caused by any number of reasons on a local, regional, or state basis. In part, this is because electric supply generally becomes scarcer in a capacity shortfall or emergency, and thus customer demand for electricity in a tight supply market drives up its value and price.

In particular, there is a point at which short duration resources start reaching their technical limitations and will stop performing their grid support services, despite the fact that those services may still be demanded by the electric system. It is around the 4-hour mark of an emergency event that longer duration resources become increasingly valuable to ensuring electric system reliability, as it is the point in time when shorter duration resources (that were performing load reduction and reliability services to maintain grid stabilization up to that point) will start coming offline. The ~4-hour juncture of an emergency reliability event is crucial for the Commission to consider when assigning incremental value to reliability performance for longer duration BTM resources that perform during an emergency event that exceeds 4 hours.

The Commission should consider these technology limitations as it develops incentives for BTM resources that can perform beyond the 4-hour mark of an emergency event under Option #3. Reliability services jump significantly in value once the 4-hour shorter duration baseline contemplated under this proposal is exceeded, and those services continue to incrementally increase in value with each hour that passes during an emergency until it concludes. There should be an increase to the incentive level that appropriately values that 4-hour “tipping point” described above. After that point, incentive levels should increase incrementally for BTM resources that continue to dispatch or perform reliability grid support services for longer durations of time in an emergency event.

Our illustrative example captures these considerations in the table above where the 4-8-hour duration is assigned 1.5x the value of the 4-hour incentive value (our example uses the May value of $\$9 \times 1.5 = \13.50) to reflect the significant increase in value after that point in time during an emergency. 2x or another figure may actually be more appropriate to account for the “4-hour tipping point”, especially in the late summer months... After the 8-hour mark, the incentive levels increase linearly again (our illustrative example uses $[1.5 \times 4\text{-hr value} + \$2.50]$ for each stepped up duration level) to account for the incremental value of longer duration performance over time up to 24 hours. Incentives for resources participating under option #3 can be under the same bid cap as other options.

In summary, *the longer the BTM resource can perform the reliability service needed by the system during an event, the higher the compensation it should receive* for providing emergency grid support services under the DSGS program option #3. This is simple and easy for customers, BTM developers, and regulators alike to understand and implement on the ground across California to generate significant DSGS participation when the electric system needs reliability support.

There are additional benefits to the electric system that are conferred when BTM resources are meeting grid needs for extended periods of time and/or during particular moments of extreme strain. While we hope these events will occur infrequently, the Commission should plan and account for them in the DSGS program design. Option #3 should assign higher incentive values and corresponding compensation for longer duration BTM resources, in addition to incentivizing shorter duration BTM resources. They are *both important tools* in the Commission’s toolkit for ensuring electricity system reliability in the short- and long-term while maximizing customer investments in clean energy technologies that can provide significant value to California’s energy system and benefits that accrue to all Californians.

III. Conclusion

Accelerating microgrid and DER deployment across California with the DSGS, as well as other CEC programs like DEBA, will be a valuable reliability investment for California's energy system and it is also a risk mitigation strategy that will ensure public health, safety, and increase the resilience of communities and their local economies widely throughout the state. The MRC applauds the Commission for its continued work on electricity system reliability and appreciates the opportunity to provide comments on the Commission's revised DSGS program guidelines and staff workshop.

Respectfully submitted,



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