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Microgrid Resources Coalition Comments on DEBA RFI

Additional submitted attachment is included below.

November 30, 2022

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

RE: Docket 21-ESR-01 Microgrid Resources Coalition Response to RFI on Clean Energy Resources for Reliability

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.

II. Comments on the RFI and Response to Questions

The MRC respectfully submits the following comments on the California Energy Commission ("CEC") Request for Information ("RFI") on Clean Energy Resources for Reliability and the creation of the new Distributed Electricity Backup Assets ("DEBA") program pursuant to AB 205.

The microgrid industry applauds the CEC and greatly appreciates DEBA explicitly including microgrids

DEBA was created to incentivize cleaner and more efficient distributed energy resources (DERs) that can serve as reliability assets. AB 205 states that, in implementing and administering the program, the Energy Commission shall allocate funding towards the "deployment of new zero- or low-emission technologies, including but not limited to fuel cells and energy storage, at existing or new facilities."[1] The program was allocated $700 million over 5 years, with $550 million to be available this fiscal year.[2]

The MRC greatly appreciates and applauds the Commission for explicitly including microgrids as resources eligible for funding under DEBA and recognizing the values and benefits that microgrids can provide to improve the reliability of California's energy system.

RFI Questions and Answers

1) Are the categories (indicated in Tables 1, 2 and 3) appropriately representing how the CEC should be evaluating resources?

[1] AB 205 Article 2, Section 25791 (a)(b)1-2
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB205
[2] California State Budget (2022-2023 Fiscal Year) Summary Addendum at pg. 6

The categories themselves seem appropriate but we caution the CEC in focusing too much on the resource categorization as a metric for approving projects under DEBA. The CEC should instead focus on evaluating the performance and derived benefits of the resources to ensure projects funded under the program achieve the reliability goals articulated in AB 205.

2) Are there resources that should be added to or removed from the preliminary list under each of the categories (shown in Tables 1, 2, and 3)?

The MRC requests that bioenergy resources, linear generators, and combined heat and power systems (CHP) all be added to the list of resources eligible for DEBA.

- *Bioenergy resources should be added under the renewables category of supply resources and note that biogas can also be a form of long-duration energy storage.*
- *Linear generators should be added under the supply/demand category because of their dispatchability and load-following capabilities.*
- *Combined heat and power systems should be added under both gas fired generation and renewables because CHP systems can use a variety of fuels, both renewable and non-renewable, as well as put waste heat to beneficial use or convert heat to power.*

DEBA should not be funding the procurement of imports of electricity from outside California. Imports are inherently unreliable in emergency events. The spirit of the AB 205 authorizing the creation of DEBA is to deploy new projects in-state that help meet policy goals and improve reliability. Imports should be removed from the list of resources.

3) Are there other attributes that should be considered, in addition to the ones listed in Table 4? If so, should those be considered for the qualitative and/or quantitative evaluation?

The MRC agrees with the initial list of attributes outlined in Table 4. DEBA projects should also consider adding additional attributes of projects that provide co-benefits to customers and communities.

In particular, we suggest adding the following attributes that could be both qualitative and quantitative:

- *Resilience benefits – the ability of resources to serve onsite load during wider grid outages and provide backup power to critical and essential facilities, as well as providing grid support during emergency events*
- *System benefits – the ability of resources to provide ancillary services, firm capacity, and have high availability and dispatchability to respond quickly and support the grid and bulk power system during events. This may also include system benefits that occur outside of emergency events such as avoided line losses and avoided transmission and distribution costs that would otherwise be borne by ratepayers*
- *Environmental benefits – the ability of resources to reduce emissions, criteria pollutants, and avoid adverse water and land use impacts*
- *Locational benefits – the ability of resources to be sited in areas that achieve multiple policy goals simultaneously, such as transmission congested regions, high wildfire risk areas, and in disadvantaged/vulnerable communities*
- *Flexibility – the ability of resources to switch to cleaner fuels and reduce emissions further as renewable fuels become more commercially available and cost-effective over time*

4) How should the attributes be weighted relative to each other? Should some attributes be weighted more than others?

The most important attribute is reliability performance since that is the explicit goal of the program pursuant to AB 205. The MRC believes that environmental, resilience, firm capacity and other system benefits should also be accorded weight after accounting for reliability and certainty of performance.

Locational benefits should also be considered and accorded weight based on the resource's ability to provide other co-benefits or with strategic siting of projects that will achieve additional policy goals, such as community benefits or environmental justice goals.

5) What data/information sources can help inform characterization and evaluation (both qualitative and quantitative) of the different resources?

- *Grid topology and real-time capacity information to help inform strategic DER deployment to support other objectives like T&D investment deferral, mitigating grid congestion, and local capacity constraints.*
- *Updated emissions factors for the carbon intensity of California's grid to provide a frame of reference for the deployment of lower emissions resources*
- *Information or maps showing high risk areas that are prone to power outages (intentional or otherwise) and/or high wildfire risk.*
- *Information and maps showing locations of disadvantaged and low-income communities to facilitate deployment in areas that have been traditionally underserved or impacted.*

Resource Characterization

1) Please provide a general overview of the resource, including the following: a. Resource category (e.g., supply, demand) and type (e.g., solar) and scale (e.g., utility, distributed)?

Microgrids are appropriately categorized as supply and demand resources as they are both. The MRC requests that microgrids be more explicitly defined as a single controllable entity with a clearly defined electrical boundary and the ability to "island" or disconnect at a single point of interconnection and operate autonomously and independently from the larger grid.

Microgrids may have any combination of generation, storage, controls, and demand management resources interconnected within its electrical boundary.

2) How does the resource compare to conventional generation in terms of greenhouse gas and priority pollutant emissions?

This varies depending on the exact configuration and resources within the microgrid, but generally all microgrids, even those that utilize some distributed gas generation, are lower emissions, higher efficiency, and have less environmental impacts than conventional generation.

3) How does the resource support reliability (e.g., supply, permanent load reduction, net peak reduction, or emergency asset?) (List all that apply.) a. How can the resource be used as an incremental on-call resource during emergencies?

Microgrids can provide a wide range of services and capabilities that can provide benefits to the grid and bulk power system, including:

- *Firm capacity – exports to mitigate the risk of capacity shortfalls or serve net peak load*
- *Grid services – voltage support, frequency regulation, other ancillary services*

- *Demand response – load shedding and internal demand management capabilities to reduce grid demand*
- *Intentional islanding – ability to disconnect from the grid on-demand to provide immediate load reduction while maintaining operations for critical and essential services*

4) How many new MWs and MWhs can the resource provide per year, taking into account resource characteristics and known barriers between now and 2035? a. How is that different if used incrementally as an emergency asset during an extreme heat event?

The MRC estimates that its members can deploy at least 1,000-2,000 MW each year if there is a clear tariff, interconnection processes, and price signals in place for microgrids to respond to.

5) What is the levelized cost for the resource in $/MW-yr. and $/MWh-yr. from 2023 to 2035?

Project costs will depend on the specific microgrid components and configurations.

Levelized Cost of Energy (LCOE) does not account for the value of reliability and resiliency or the higher value of electricity during peak hours and emergency events. In general, the MRC does not believe that the LCOE is an appropriate proxy for comparing resource costs due to the numerous cost variables that are excluded from the LCOE calculation. LCOE does not capture all the factors that contribute to investment decisions and oversimplifies the cost of electricity, making it a poor metric to evaluate DERs and their overall value to the energy system.[3]

6) What is the average length of time from ordering or purchasing the resource to operation? How long does that typically take in today's market? What conditions must be met to deploy the technology rapidly? (e.g., transmission interconnection, building electrification or upgrades, etc.)

Microgrid deployment lengths will vary, but the most important conditions for expeditious deployment of projects are a clear pathway to interconnect to the grid and a consistent price signal that provides economic and regulatory certainty to the customer, developer, and investors that are putting up capital for the project. Utility interconnection delays are generally the biggest barrier to timely deployment of microgrids.

7) For an emerging technology, when will it be ready for deployment, and at what scale?

Microgrids are available for deployment today and can be scaled significantly if the conditions in #6 are in place to support the expeditious rollout of projects.

8) Is the target customer primarily residential, commercial, agricultural or industrial?

The MRC encourages the Commission to focus on non-residential customers in the DEBA program. Other programs, such as the Self-Generation Incentive Program (SGIP), have been authorized significant sums of money to deploy new residential clean energy projects. Given the scale of funding and program offerings available to residential customers, we suggest that the Commission prioritize non-residential and public sector projects in DEBA to ensure that taxpayer dollars are going to customer segments not adequately being served by other programs.

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[3] Levelized Costs of New Generation Resources in the Annual Energy Outlook 2022.
https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf
Not All Electricity Is Equal – Uses and Misuses of Levelized Cost of Electricity. August 1, 2019.
https://www.wri.org/insights/insider-not-all-electricity-equal-uses-and-misuses-levelized-cost-electricity-lcoe

9) What are the key non-financial barriers to the development and implementation of this resource (including, but not limited to, permitting, interconnection, supply chain, customer acceptance, and alignment with policy goals)?

As discussed in #6 above, interconnection is the biggest non-financial barrier to microgrid deployment.

10) What are the key financial barriers to the development and implementation of this resource?

The lack of clear tariffs and price signals available at the distribution system level are barriers to monetizing microgrids and limit the ability of developers and customers to tap into other sources of capital beyond taxpayer and ratepayer funds.

Microgrids are generally interconnected on the distribution system level and developed to serve local energy needs. While they can be market-integrated, it is more difficult, time-consuming, and expensive for DERs on the <1MW – 10+MW range to interconnect via the wholesale distribution tariff and access wholesale markets. Developing distribution-level markets for grid services and creating new market pathways for microgrids to provide value to the grid locally, while maintaining a clear distribution interconnection process via Rule 21, will maximize both the local and bulk power system benefits of DERs, as well as reduce financial barriers to DER deployment.

Departing load charges and standby charges are another significant financial barrier for many microgrids.

11) What types of benefits or impacts is the resource anticipated to have on low income and disadvantaged communities, and tribes, if any in terms of development and deployment?

Microgrids can provide significant benefits to low-income, disadvantaged, and tribal communities by providing local clean energy resources, resilience and energy independence, and customer empowerment to take control of energy management decisions. Microgrids owned and controlled by these communities can serve important environmental justice goals.

Input on Distributed Electricity Backup Assets Program Design

1) What size of resource and what types of customers should the program target?

The MRC encourages the Commission to focus on deployment of new low emissions resources at non-residential and public sector customer sites to maximize co-benefits of the DEBA program.

We do not suggest a specific size requirement but note that these customers tend to have more available space and can install larger projects that can provide a greater opportunity for grid demand management and reliability services to California.

2) What types of incentive structures and amounts are needed to accelerate the development and deployment of this resource?

The MRC suggests an incentive structure based on a $/MW of installed capacity.

There should be a 2-part payment structure with an upfront capacity reservation payment to secure the resource's participation in DEBA for emergency grid support, plus an ongoing performance payment for emergency load reduction services provided.

We also suggest adders for additional co-benefits such as locating projects in DACs, or the ability of projects to provide resiliency to critical and essential facilities, in addition to the core requirement to provide emergency grid support during events.

3) What types of conditionalities and measurement and verification requirements should the program include to ensure funded resources participate and deliver during emergency events?

See #2 on payment for performance

4) In general, please provide any specific proposal or recommendation on the design and implementation of the DEBA program.

The MRC suggests that the $550 million in funding be released all at once with a first-come first-served approach to deploy reliability solutions as quickly as possible under this program.

DEBA should permit projects to pair other incentives if necessary to fully fund projects. The Commission should ensure that DEBA guidelines do not conflict with the federal Inflation Reduction Act (IRA). The CEC should confirm that participation in DEBA does not preclude resources from capturing tax credits or other incentives.

Resources participating in DEBA should also be allowed to participate in other demand response programs so long as there is sufficient capacity on reserve to fulfill the requirements of DEBA to serve as on-call resources during emergencies. So long as DEBA resources are prioritizing participation in the Emergency Load Reduction Program (ELRP) or the Demand Side Grid Support (DSGS) program for emergency load reduction, they should be permitted to help the grid in non-emergency situations or blue-sky conditions and leverage other programs if projects have sufficient capacity and capabilities to do so.

III. Conclusion

The MRC appreciates the opportunity to provide comments on the Commission's RFI on Clean Energy Resources for Reliability. We applaud the CEC for embracing DERs as a reliability solution and creating the DEBA program under AB 205. The MRC looks forward to continued collaboration to deploy microgrids to improve energy system reliability in a cost-effective and expeditious manner, while maximizing the value and co-benefits for customers and the state of California.

Respectfully submitted,

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