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Subject: Request for Information on Clean Energy Resources for Reliability

RE: Docket 21-ESR-01 ENGIE North America, Inc. Comments on Request for Information

I. Introduction

ENGIE North America, Inc. (ENGIE NA) is an independent power producer, energy services company and retail energy supplier focused on advancing the transition to a carbon-neutral future. ENGIE NA appreciates the opportunity to provide comments for the California Energy Commission's (CEC) Request for Information (RFI) on Clean Energy Resources for Reliability, which seeks to collect information on the potential resources and attributes for consideration in its required analyses of clean energy alternatives to support grid reliability. ENGIE NA is focused on delivering comprehensive energy savings and resiliency solutions to government, educational, commercial, and industrial customers across California.

II. Comments on the Clean Energy Resources for Reliability RFI and Responses to Questions

ENGIE NA believes that all Distributed Electricity Backup Asset (DEBA) Program funding should include two specific categories often under resourced in broader DER resiliency funding. First, government and school buildings provide an underutilized resource for all energy resiliency needs. More funding should go towards installing more DER technologies like battery storage on existing schools and government properties, especially where solar has already been installed. Second, more funding is needed to fund microgrid installations that could help increase local energy resiliency where needed, but also to empower local communities to be more engaged in local energy supply siting.

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

The categories appear to be comprehensive.

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)?

ENGIE NA encourages the CEC to not be overly prescriptive on resource types but rather focus on the ability for resources or combination of resources to meet the goals of the program as outlined in AB 205.

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

ENGIE NA recommends considering the following additional attributes from both a qualitative and quantitative perspective:

- *Resiliency – Ability for resources to island from the grid during grid outages and provide back up power to critical facilities as well as provide grid support during emergency events.*
- *Community Benefits – Public sector projects (cities, schools) that provide broader community benefits in the form of resiliency (i.e., safe community spaces during grid outages) as well as providing grid support*
- *Locational considerations – located in high wildfire risk areas, high pollutant areas, disadvantaged communities*
- *Peak load management – Resources that can serve the evening peak in addition to providing grid support during emergencies*

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

After reliability, which is the primary goal of the program, resiliency, community benefits and locational considerations should be given the highest weighting.

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

ENGIE NA provides energy savings and resiliency solutions that usually comprise multiple technologies. Project costs will vary depending on technology and design. ENGIE NA encourages the CEC to focus on the goals of the program and what resources or combination of resources can best meet those goals rather than levelized cost.

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.)

Project deployment timelines vary but can take up to eighteen months for microgrid projects. Interconnection and supply chain delays are the biggest challenge developers experience in bringing projects online in a timely manner. Upgrades may or may not be required on a project but when utility upgrades are required, this can cause the lengthiest and sometimes unexpected delays.

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

Most of the resources ENGIE NA employs as part of its solutions that comprise microgrids, solar/storage projects and others are available for deployment today and can be scaled based on customer requirements. ENGIE NA is always evaluating new technologies to meet customer needs but is not tied to tied to any specific emerging technology.

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

The target customer is non-residential, primarily the public sector. ENGIE NA encourages the CEC to focus on non-residential customers only for the DEBA program. The residential sector is receiving significant funding from other sources to deploy clean energy solutions.

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)?

Interconnection delays are often the most challenging non-financial barrier to deployment. Long lead times on batteries, switchgear, inverters, and other equipment is also a current challenge.

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

Lack of funding is often a barrier when working with public sector customers, especially schools. Upcoming changes to Net-Energy Metering will make the value propositions even more challenging for these customers.

More opportunity to monetize benefits provided by microgrids such as resiliency and storage solutions would help alleviate financial barriers for customers. Removing barriers related to settlement and interconnection that exist today for small DERs and microgrids to provide market services beyond demand response, would maximize both the local and bulk power system benefits of DERs and provide additional value streams for customers.

Interconnection can be costly with microgrids. Streamlining the interconnection process for DERs in several areas could reduce timelines and expense. For example, ENGIE NA would prefer to have the option to deploy backflow constraints on a project in lieu of costly upgrades when it makes economic sense to do so.

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 and other clean energy solutions provide significant benefits to low-income and disadvantaged communities through resiliency, GHG reduction, and energy bill savings.

Input on Distributed Electricity Backup Assets Program Design

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

ENGIE NA encourages the CEC to focus on non-residential customers with no resource size limitations. Schools and community centers are some of the most meaningful and useful places to locate resiliency solutions that can benefit entire communities and provide significant benefits to the DEBA program.

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

ENGIE NA recommends an incentive structure that includes both an upfront capacity reservation payment and an ongoing performance payment. Adders should be included for providing community resiliency benefits and for being in disadvantaged communities with others to be determined. Considering the deadline to launch the program prior to summer 2023, program design and participation requirements should be kept as simple as possible.

Having transparent and upfront incentive amounts will be critical to deploying DER projects and getting customer buy in to participate.

As noted above, market participation for DERs can be costly and complex to deploy. Wholesale market participation should not be required in the DEBA program.

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

ENGIE NA recommends that no new M&V requirements be created beyond what already exists in existing demand response programs that would be aligned with the goals of the DEBA program.

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

ENGIE recommends the following two priorities for the DEBA program

Priority Area #1: Increase funding for DER investments on government and school properties, especially where solar has already been installed

Today in California there are more than 10,500 schools alone, not to mention thousands of government buildings. Each of these buildings are an opportunity to install DER technologies to manage energy loads at local learning centers and cities while also helping the state reach its reliability and climate policy goals.

Over 2,800 schools have already installed solar panels under various state and federal funding programs, but thousands remain and are able to serve the state's energy needs[1]*. Many schools have yet to deploy storage. Some are located in high wildfire risk areas where they could benefit from resiliency solutions while also providing emergency services to the grid. The commission should evaluate as part of the DEBA program the potential for funding for these entities that already have solar to add storage and/or microgrid solutions to provide additional local and grid benefits. By directing more funding to this effort, the CEC can help grow that number and significantly improve California's energy resiliency, which will become increasingly crucial to mitigating the effects of climate change and accelerating the state's clean energy transition. ENGIE NA is committed to helping the state meet its ambitious clean energy goals and believes that updating our public buildings and upgrading our educational facilities with batteries and microgrid solutions where applicable, is critical to achieving a just transition.*

[1] Brighter Future – A Study on Solar in U.S. K-12 Schools
https://generation180.org/wp-content/uploads/2022/10/BrighterFuture2022.pdf

In addition to funding storage technologies on public buildings across the state, the CEC as part of the DEBA program should consider how linking the control of these public energy systems as a virtual power plant (VPP) to control DERs in an entire energy district. Providing access to a VPP could help control multiple energy demand loads at times when schools are not in session, or public buildings are not in use during holiday seasons, for example. VPPs are growing in importance in California and are virtual aggregations of distributed energy resources like photovoltaic (PV), energy storage, electric vehicle chargers and demand-responsive devices (such as water heaters, thermostats, and appliances) providing critical decarbonization and grid services. VPPs could serve as an important supplement to increased efforts to install more batteries and paired storage units on public buildings across the state, ensuring that the CEC can optimize its efforts to achieve maximum grid reliability.

Priority Area #2: Further development of microgrid systems

ENGIE NA 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. Microgrids are emerging as a crucial answer to two of the central challenges of electrification: affordability and reliability. Microgrids can help address California's capacity shortfall and mitigate the risk of system reliability challenges while simultaneously securing critical and essential facilities against the risk of power outages. Indeed, as power outages and safety shutoffs are becoming the new normal in California, communities are under enormous pressure to adapt and mitigate their immediate effects. ENGIE is deploying multiple microgrid projects with schools and cities across CA to mitigate these challenges. If a transparent incentive structure is adopted as part of the DEBA program, ENGIE can include the DEBA program as part of its microgrid product offerings to customers.

In addition to alleviating the burden of power outages, microgrids can also avoid or defer the need for expensive transmission investments, reduce grid congestion, and lower both greenhouse gas emissions (GHG) and local air pollutants that disproportionately impact vulnerable communities. Microgrids are sustainable assets that have a triple-bottom-line impact and provide tremendous multi-faceted benefits to the state of California. For example, microgrids are a readily available technology that could reduce the need to rely on the Diablo Canyon nuclear facility, as well as address other capacity concerns. Because microgrids can operate outside of emergency hours and peak hours to reduce baseload demand on the grid, they can help both reduce peaks from the bottom of a demand graph and meet peak demands from the top of the same graph. In sum, microgrids provide a reliable, clean power supply that can incorporate a wide variety of resources and demand management strategies. There are a variety of microgrid solutions that can be deployed to meet reliability challenges with high efficiency and low emissions today while not compromising California's climate and long-term clean energy goals. Not only will these resources be grid reliability assets for years to come, but they will also enable customers to increase resilience at the local level and mitigate the risk of outages that have severe consequences for vulnerable populations, critical and essential services, and communities across the state.

ENGIE NA believes that increasing access to microgrid funding is critical to the success of the DEBA program, specifically its ability to quickly interconnect to the larger grid and provide reliability services.

The biggest barrier to microgrid deployment is the absence of a workable tariff and clear price signals to support microgrids and more sophisticated BTM solutions that could provide reliability benefits if a market pathway is cleared for them. Without this tariff, more funding such as from DEBA is needed. The Commission should acknowledge the key importance of investing in reliable energy supply options like microgrids and make it easier, faster, and cheaper for them to aid in both mid-term reliability challenges and long-term climate goals by encouraging clean technology adoption and allow the sharing of power between them.

Pairing incentives like DEBA with clear price signals that engage customers and incentivize them to stay interconnected, participate in the clean energy transition, and help build the grid of the future together is a strategically inclusive programmatic approach. DEBA can achieve true energy equity and environmental justice by empowering customers and putting local communities at the center of the network.

DEBA Should Allow Projects to Access Other Incentives

DEBA should allow projects to access other incentives, including participating in other demand response programs, and should not conflict with incentives available through the Inflation Reduction Act.

III. Conclusion

ENGIE NA appreciates the opportunity to provide comments on the Commission's RFI for Clean Energy Resources for Reliability. We look forward to continued collaboration with the CEC to improve energy system reliability, maximize the value and co-benefits for customers, and help achieve the state's broader climate goals.

Respectfully submitted,

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ENGIE North America, Inc.