DOCKETED	
Docket Number:	22-RENEW-01
Project Title:	Reliability Reserve Incentive Programs
TN #:	255110
Document Title:	Oasis Microgrids, Inc Comments on Proposed DEBA DER GFO Draft Solicitation Concept
Description:	N/A
Filer:	System
Organization:	Oasis Microgrids, Inc.
Submitter Role:	Applicant Representative
Submission Date:	3/15/2024 1:56:20 PM
Docketed Date:	3/15/2024

Comment Received From: Oasis Microgrids, Inc.
Submitted On: 3/15/2024
Docket Number: 22-RENEW-01

Oasis Microgrids, Inc Comments on Proposed DEBA DER GFO Draft Solicitation Concept

Additional submitted attachment is included below.

March 15, 2024

California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, CA
Via docket submission

Oasis Microgrids, Inc. Comments on Proposed DEBA DER GFO Draft Solicitation Concept

Dear Vice-Chair Gunda and Commission Staff,

Oasis Microgrids appreciates the significant attention that Energy Commission (CEC) staff has given the Proposed DEBA DER GFO Draft Solicitation Concept, and the thoughtful engagement with stakeholders on designing this crucially important program. Observing the significant capacity added to the state's emergency reliability pool with your pilot program, we are excited to contribute to that effort in the future. With these comments, Oasis Microgrids will concentrate our responses to the proposals put forward, as well as our own feedback and experience. We also propose our ideas for improvements and enhancements to the 22-RENEW-01 grand funding opportunity to better fulfill the program's potential to help prevent grid emergencies.

I. Introduction:

Located in Laguna Beach, California, Oasis Microgrids wishes to introduce our flameless boiler accessory to the Commission. Providing robust heat production and electricity generation with an extremely low carbon footprint, our flameless boiler accessory maximizes the potential of existing commercial and industrial boilers by seamlessly integrating them into a highly dispatchable clean power solution. By decarbonizing California's challenging "hard-to-electrify" boilers, crucial for supporting the state's status as the fifth-largest economy globally, Oasis

Microgrids aims to drive sustainable energy transformation while meeting the unique needs of industrial sectors.

II. Responses to Solicitation Prompts:

1. *What data should be required from DEBA Program participants for measurement and verification purposes as well as other public reports and initiatives?*

Oasis appreciates the CEC's consideration towards robust data collection and deliberate assessment of DEBA program participants in pursuit of California's ongoing development of a net-zero emissions energy infrastructure. As the CEC is demonstrably aware and concerned, the rapid development and deployment of legitimate emissions reduction strategies like the DEBA DER GFO are critical to the future of Californians already impacted by climate-amplified weather events, rising sea levels, and extreme heat[1]. It's with this common concern that Oasis strongly recommends the prioritized consideration for thermal efficiency in power generation technologies. Oasis believes the CEC's DEBA DER GFO needs to ensure the assessment of thermal efficiency for any and all power generation or electrification initiatives overseen by the commission moving forward.

The existential threat of climate change requires not only haste in attainment of net-zero emissions, but also certainty that initiatives toward net-zero will not increase emissions unnecessarily. Measuring thermal efficiency of power generation in btu/kw-hr best describes the effective conversion of potential heat energy stored in fuel (calculated from volumetric flow) and into usable electrical energy[2]. Oasis strongly recommends the prioritized measurement of btu/kw-hr heat rate in the CEC's 22-RENEW-01 and among all generative applications resembling the DEBA DER GFO. With this data, generative projects and proposals should be held, at minimum, to not exceed the average heat rate of grid-supply generation, and ideally averaged from sources in a project's power supply locality regularly compiled by the CEC[3]. The assessment of a project's thermal efficiency relative to the local grid heat rate would provide a fail-safe against the installation of distributed generation systems that might succeed in grid support but would ultimately contribute to burning more fuel to achieve a power output less than or equal to that of grid supply sources.

---

[1] *Summary of Projected Climate Change Impacts on California*, California Climate Adaptation Strategy
[2] *"How much coal, natural gas, or petroleum is used to generate a kilowatthour of electricity?"*, Independent Statistics & Analysis, U.S. Energy Information Administration
[3] *ArcGIS Energy Infrastructure Data*, California Energy Commision

Oasis supports the CEC requirement that projects meet standards defined by the California Air Resources Board and the "Tie-Breaker" point allocation for an applicant's lower overall GHG emissions as effective components in minimizing emissions. However, the precedent of comparative thermal efficiency as a metric for consideration provides an immediate determinant of a project's effectiveness contribution towards a net-zero energy infrastructure in California. Oasis supports that the CEC's collection and prioritized comparative assessment of btu/kw-hr heat rate data provides a metric worthy of precedent in the DER DEBA GFO and all power generation applications. The weighted consideration for thermal efficiency, especially in the case of regular data collection beyond the assessment period of 22-RENEW-01, is optimal for the coordinated effort towards the renewable energy future of California and, ultimately, the effective combat against an anthropogenic climate crisis of unprecedented complexity. Oasis is grateful for the CEC's consideration in this shared responsibility and the opportunity for dialogue.

2. *Are the Project Group definitions and requirements clear and adequate to sufficiently target DER technologies and projects capable of supporting statewide grid reliability?*

While the CEC-provided definitions and requirements for 22-RENEW-01 applicants are extensive, clarifications in the following would greatly benefit potential applicants affiliated with CHP technology. Section III.A.1 requires that "For Group 3: Load Flexibility Aggregation Programs, eligible applicants must be one or more California load serving entities (LSEs) or utilities or an entity under contract with one or more California LSE/utility and applying on behalf of the LSE/utility"; the CEC definition characterizes an LSE to be "Any company that (a) sells or provides electricity to end users…", but limits that "LSE does not include the owner or operator of a cogenerator". Additionally, the most recent CEC definition from 2021 states that, "'Cogenerator' means a power plant that produces (1) electricity; and (2) useful thermal output for industrial, commercial, heating, or cooling purposes".

In recognition of the CEC's shared goal of facilitating California's transition to a clean renewable future; Oasis recommends clarification on the limitations of CHP affiliation in LSE qualification required for Load Flexibility Aggregation Programs in reference to Section III.A and its associated definitions of "Cogenerator" and "Load- Serving Entity". In the context of this potential ambiguity, Oasis requests further clarification on the permitted role of cogeneration projects, like our boiler accessory application, within Distributed Generation

systems. Eligible technologies for applicants in Group 1: DER and Group 2: VPP are outlined in Section III.B.(5&6).a.ii and includes “Combined heat and power (CHP) systems that use waste heat to power (WHP) technologies”. Oasis would request modification of Section III.B.5.a.ii to either, a) remove the supplementary requirement that CHP DG systems use waste heat to power WHP technologies, b) provide qualifying metrics for component WHP within CHP systems for DG technology eligibility, or c) include technologies with the primary purpose of producing usable heat and steam that cogenerates electricity.

3. *Is the proposed timeline in the solicitation, including application submission windows, reasonable to accommodate project proposals for project group?*

The CEC should consider modifying or removing the requirement that Groups 1 and 3 meet a “Technology Readiness Level (TRL) 9 or greater” before application as is outlined in Section III.B.1. While it is understandable for the CEC to prefer that applicant projects achieve the farthest advancement within the agreed upon TRL scale, adjustment of the requirement may provide greater contribution towards green transition than its current cutoff at TRL-9. Projects with greater encapsulation from external systems than that of grid response and load flexibility, a benchmark requirement of TRL-7 is more appropriate.

Given that the characteristics of TRL-9 within NASA’s referenced scale requires that projects “actual system (be) ‘flight proven’ through successful mission operations"[4] Oasis has recognized that this conflicts with the CEC-proposed timeline for project application in which the Measurement & Verification metrics and processes be proposed by applicants in submissions before the end of the General Application Period. In this context, “‘Flight proven’ through successful mission operations” suggests demonstrated adherence to metrics proposed in the same application and yet to be agreed upon by the CEC. Similarly, TRL-8 also requires “flight qualified” testing of the “actual system”[5] which suggests capacity demonstration within the 4-hour measurement window or another demonstration falsifiable by the CEC which would not take place until the post-submission Technical Screening as part of the Application Evaluation.

[4] *Technology Readiness Levels* - N.A.S.A.
[5] *Ibid.*

Oasis suggests reducing the drafted TRL requirement to TRL-7: “System prototype demonstration in a space environment”[6] as this reduces ambiguity of testing metrics and screening timelines while leaving room for the CEC to further specify custom TRL metrics demonstrable within the General Application Period and without consequence to the auxiliary requirement in Section III.B.3 that “Proposed projects must be completed and online no later than May 1, 2027”. At minimum, Oasis hopes the CEC will modify the drafted requirement of “(TRL) 9 or greater” to either meet a custom TRL scale by the CEC, as NASA’s does not extend beyond TRL-9 and is tailored to projects of greater encapsulation, or to remove the TRL basis altogether in favor of a Commercial-Readiness-Rubric that achieves the CEC’s desired characteristics for applicant projects (e.g. Bill of Materials, Site Clearance, Prototype Capability, etc.,).

III. Conclusion

Oasis Microgrids appreciates the chance to submit these comments, and we look forward to continued engagement with the CEC and staff to expand distributed energy resources supporting California’s energy system. Please do not hesitate to contact me at mark.nair@oasismicrogrids.com with any questions regarding our comments.

Sincerely,

Mark Nair
Oasis Microgrids, Inc.
32132 Virginia Way
Laguna Beach, CA 92651

[6] *Technology Readiness Levels* - N.A.S.A.