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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Microgrids Pursuant to Senate Bill 1339 and Resiliency Strategies.	Rulemaking 19-09-009 (Filed September 12, 2019)

MICROGRID RESOURCES COALITION RESPONSE TO ASSIGNED COMMISSIONER'S AMENDED SCOPING MEMO AND RULING SETTING TRACK 4: EXPEDITED PHASE 1 AND EMAIL RULING ON POTENTIAL MICROGRID AND RESILIENCY SOLUTIONS FOR COMMISSION RELIABILITY ACTION TO ADDRESS GOVERNOR NEWSOM'S JULY 30,2021 PROCLAMATION OF A STATE OF EMERGENCY

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I. Introduction

The Microgrid Resources Coalition ("MRC") respectfully files its comments in response to the Assigned Commissioner's Amended Scoping Memo and Ruling on Microgrid Reliability for Track 4 ("Track 4 Scoping Ruling") issued in the above captioned proceeding and the Administrative Law Judge's Email Ruling on Potential Microgrid and Resiliency Solutions for Commission Reliability Action To Address Governor Newsom's July 30, 2021 Proclamation of a State Of Emergency ("Emergency Action Ruling") The MRC appreciates this opportunity to provide proposals that we believe are responsive to both expedited phase one of Track 4 and to the Emergency Action Ruling.

The 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. In pursuing this objective, the MRC intends to remain

neutral as to the technology deployed in microgrids and the ownership of the assets that form a microgrid. The MRC's members are actively engaged in developing microgrids in many regions of the United States including many who are actively engaged in microgrid development in California.[1] MRC members have also been operating sophisticated microgrids over an extended period of time (some for over 30 years). They are at the cutting edge of microgrid technology.

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.

In responding to the Track 4 Scoping Ruling (Phase 1) and the Emergency Action Ruling, the MRC has made two specific proposals. The first, primary proposal would create an emergency services tariff for existing and new microgrids that allows and compensates microgrids to provide specified, dispatchable capacity to the grid during emergency circumstances including a capacity shortfall. The second proposal would compensate microgrids that serve and provide resilience for critical facilities and would displace the need for backup diesel generation on the utility system. Both proposals provide utilities with additional dispatchable resources to call on in capacity shortfalls or other emergencies. Each proposal is outlined below followed by responses to the questions posed by the Emergency Action Ruling.

II. Proposal 1: Emergency Services Tariff

The MRC proposes a new Emergency Services Tariff (**EST**) for customers operating behind the meter microgrids otherwise eligible to interconnect under Rule 21.[2] The EST would

[1] Members of the MRC include: Bloom Energy, Concord Engineering, eco(n)law, Emory University, Engie, Icetec, Mainspring Energy, Massachusetts Institute of Technology, Princeton University, Reimagine Power, Resilience Plus, Scale Microgrid Solutions, Schneider Electric, University of Missouri and the University of Texas at Austin. The MRC's comments represent the perspective of the coalition and should not be construed as speaking for individual members.

[2] The Commission has ample authority to adopt such a tariff under SB 1339 (Pub. Util. Code. 8371(d)). It could be included as a portion of the microgrid tariff that each utility is required to adopt pursuant to the Commission's Track 2 Decision (D.21-01-018).

encourage and permit eligible microgrids to assist utilities in preventing capacity shortfall. To be eligible for the EST the microgrid customer would be required to commit to provide capacity support to its interconnecting utility through any combination of partial load reduction, islanding, or energy export during emergency conditions. These conditions would include CAISO capacity shortfalls, adverse weather conditions, other grid instability or threat to the utility's distribution system. The commitment would be required for up to a minimum number of hours per month, and could be limited (e.g., by battery storage capacity) to a maximum number of hours per incident. A simple addendum to the final customer Interconnection Agreement could outline the specific terms and conditions. The annual energy exports to the grid of a customer electing the EST (**EST Customer**) could not exceed its annual imports.[3] The Commission could also encourage utilities other than the large electric companies to adopt a similar tariff in response to Governor Newsom's proclamation.

The EST would be available to both existing and new microgrids. To be eligible, the microgrid must consist of CARB-approved resources, and must have verified ability to deliver its committed emergency response. It must commit a minimum of 200 kW of capacity to the program or be a part of an aggregation[4] of more than one MW. It must agree to perform scheduled maintenance outside of the months of April to October. If it proposes to offer islanding as a service, it must successfully demonstrate islanding capability. The EST would require that the microgrid customer be on a time of use rate for energy purchases for which comparable customers are eligible.

EST Customers would be exempt from departing load charges,[5] other than public purpose charges and wildfire fund charges, and these latter charges would reduce in annual increments to

[3] The Commission's ability to adopt the EST also falls within established FERC precedent. *See Sun Edison LLC*, 129 FERC ¶ 61,146 at P 1 (confirming that certain solar energy sales to net metered end-use customers do not constitute the sale of electric energy at wholesale in interstate commerce or the transmission of electric energy in interstate commerce for purposes of the FPA); *MidAmerican*, 94 FERC ¶ 61,340 at P 1 (objecting to the Iowa Utilities Board's implementation of final orders issued pursuant to Iowa's Alternate Energy Production Statute and § 199-15.11(5) of the regulations thereunder, directing MidAmerican to interconnect with three Alternate Energy facilities and to offer net billing arrangements to those facilities.)

[4] The IDER partnership program is implemented through Aggregators (D.21-02-006), and we suggest the same approach here.

[5] The governor's emergency declaration illustrates the folly of departing load charges. The system has more load than it can handle, and Customers are being penalized for providing additional capacity. A number of states adopted departing load charges to cover stranded assets costs during a move to retail competition, but they were specific to the one-time costs, and we are not aware of any other state that continues to rely on them to fund their system.

zero over seven years.[6] EST Customer microgrids would be eligible for the waiver of the capacity reservation portion of standby charges adopted in D. 21-07-011. Instead of the availability and capacity requirements established in D.21-07-011, the MRC suggests that microgrids taking service under the EST be permitted to demonstrate islanding capability or ability to provide firm capacity when called upon. The ability of the microgrid to provide emergency services is based on the entire integrated capability of the microgrid, not the capability of a single resource, and the ability to island requires the ability to meet 100 percent of internal load after internal load reductions. EST Customers would be permitted to charge battery storage resources included in their microgrid with imported power during off-peak, non-emergency hours.[7]

EST Customers would be paid $2.00 per kWh of energy or demand reduction delivered to the utility in response to calls for emergency services.[8] That rate will be in effect for 2022 and 2023, after which the Commission will reevaluate, but shall not be less that the average CAISO wholesale price during capacity shortfall conditions. Exports will be measured by two-way meter and demand reductions will be measured by reduction below the EST Customer's average usage during peak (4 p.m. to 9 p.m.) hours in the same calendar quarter over the prior two years. Failure to deliver emergency capacity (except for reasons beyond EST Customer control) more than once in a month or three times in a year would result in suspension from the EST. To provide an additional incentive for EST participation the Commission could provide compensation for non-emergency exports that do not (together with emergency exports) exceed total EST Customer imports at appropriate time of day rates.

We suggest that EST Customers be eligible resource adequacy payments for system RA or local RA as applicable based on qualification for the EST. Utilities should pay for RA at a price based on their average cost to acquire RA and could use the EST resources to meet their RA requirement. This is consistent with Commission precedent in other programs that provide capacity to the distribution utility.[9] The MRC suggests that the IOUs coordinate with LSEs and CCAs in

[6] While the MRC recognizes the importance of the funding for these purposes, the tariff should not create a permanent two-tier rate system in which certain customers pay a permanent charge for services they don't use.
[7] This would require further modifications on the charging limitations in the NEM tariffs that were adjusted in Track 2 D.21-08-018.
[8] Governor Newsom Emergency Proclamation Expediting Clean Energy Projects, July 30, 2021, Section 3(d), *available at*, https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf.
[9] *See,* location bonus for facilities sited in local reliability areas in AB 1613 Combined Heat & Power PPA Tariff https://www.pge.com/en_US/for-our-business-partners/energy-supply/standard-contracts-for-multiple-facilities-pursuant-to-ab-1613/standard-contracts-for-multiple-facilities-pursuant-to-ab-1613.page?ctx=large-business

their service territories to determine if EST microgrids can reduce the need for RA procurement that would otherwise occur with the central procurement entity.

EST Customers proposing new microgrids would be eligible to interconnect under Rule 21.[10] If they expect to export to meet the emergency capacity requirement (or as otherwise permitted) they would specify maximum export levels as do non-export resources, but would be compensated as provided in the EST. The utility would bear (and be entitled to recover) the cost of two-way metering and communications equipment to dispatch the EST Customer to provide services. The utility would be required to complete any necessary studies and specify any additional conditions within 6 months. This would include any preliminary evaluation of eligibility for EST. In connection with adoption of the EST the Commission should authorize utilities to increase their interconnection staffing to the extent needed to meet the timing requirements specified.

III. Proposal 2: Resilience Payment for Critical Facility Microgrids

In addition to the EST proposal the MRC suggests adoption of a resilience incentive payment for investment in new microgrids serving critical facilities (**CFMs**). This would serve the purposes of SB 1339[11] and provide an incentive for customer investment in capacity that would reduce the likelihood of capacity shortfalls. Critical facility would have the meaning adopted by the Commission in the De-energization rulemaking R.18-12-005, though the MRC would welcome Commission consideration of further expansion of this definition.[12] The microgrids would be required to have sustained islanding capability of at least 96 hours. The amount of the payment would be based on the utilities' cost of providing diesel backup at substations.[13] According to a recent ADL Ventures report[14] the avoided cost of utility provided diesel backup is $182 per kW of capacity per year and $0.30 per kWh delivered. The MRC proposes that utilities make an annual capacity payment of $182/kW-year to each CFM based on the aggregate peak

[10] Electric Rule 21 for each utility can be found at: https://www.cpuc.ca.gov/Rule21/

[11] SB 1339 (Stern, 2018) Pub. Util. Code 8371(d) *"develop separate large electrical corporation rates and tariffs, as necessary, to support microgrids, while ensuring that system, public, and worker safety are given the highest priority. The separate rates and tariffs shall not compensate a customer for the use of diesel backup or natural gas generation, except as either of those sources is used pursuant to Section 41514.1 of the Health and Safety Code, or except for natural gas generation that is a distributed energy resource."*

[12] R.18-12-005 De-energization Rulemaking; D.21-06-034 adopts Additional Guidelines and Rules for Public Safety Power Shutoffs with the list of critical facilities being updated on pg. 75..

[13] The reduction of demand resulting from islanding the microgrid will reduce load on the utility's substation.

[14] ADL Ventures Report at pg. 2 https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M348/K580/348580460.PDF

internal load of the CFM, and $0.30 per kWh generated during islanded operation. Both rates would be subject to annual escalation. The Utility would be entitled to dispatch the microgrid to island mode in emergency conditions. Such a provision is also clearly authorized by SB 1339.

IV. Responses to Questions in Emergency Reliability Ruling

Prevention vs. Mitigation of System Capacity Shortfall

1. *Is the proposal intended to help prevent a system capacity shortfall from occurring, or does it help mitigate the impact of rotating outages, should they be needed? Specify how.*

Both proposals are intended to prevent a system capacity shortfall from occurring.

2. *How does the proposal address the potential conflict between making resources available to the system to help prevent a system capacity shortfall from occurring and reserving resources for private use to mitigate the impacts of a potential outage?*

Proposal 1 provides specific benefits and payment mechanisms for EST Customers and provides specific required parameters for performance. An EST Customer in making an investment or operational decision for a microgrid can compare the costs and benefits and prepare to meet EST requirement if it signs up. We have suggested a rather strict performance requirement to avoid any temptation to cut corners.

3. *If a proposal is intended to prevent system capacity shortfall from occurring and it includes customer-owned or customer-hosted resources, how will availability of those resources to prevent capacity shortfall be guaranteed? Specify how they will be measured and how safety will be ensured?*

Proposal 1 specifies performance metrics and a penalty for repeat failure, though we are open to other suggestions. The microgrid industry has a better safety record than the utilities, and all microgrid installations are subject to state electrical codes. Interconnection safety will be evaluated in the interconnection process, and in the unlikely event of an internal failure of the microgrid that is not managed within the microgrid, the result would be disconnection rather than damage to the grid. Disconnection, in a capacity shortfall may simply result in "successful" demand response where emergency services do not depend on exports. Availability is guaranteed by the tested ability of the microgrid to perform and the incentives under the EST.

Islanding

Given that the ability to island is the primary factor distinguishing microgrids from other types of distributed energy resources:

1. *Is islanding, separate from any associated reduction in load or increase in generation, essential to the ability of the proposal to address the system capacity shortfall? If so, please describe in detail how islanding is expected to directly help.*

Islanding is not an essential feature of the EST, though it is one way to provide emergency services. The ability to create resilience through islanding is, of course, one of the factors that give Customers the incentive to invest in microgrids.

2. *Does islanding indirectly supplement or enhance the ability of other resources like storage, generation, or demand response to help prevent a system capacity shortfall from occurring? If so, please describe in detail how islanding is expected to indirectly help. In the response, identify what types of generation or load reduction resources the microgrid would support.*

The ability to island requires the ability of the microgrid to balance internal generation and load. That is achieved through a microgrid controller that manages all the internal resources and internal load shedding capabilities of the microgrid to achieve precise resource outputs (or compensate for imprecise ones such as solar). The ability of the microgrid to meet EST obligations is typically not depended on a single resource, and its diversity of resources combined with its precise controls helps assure that the microgrid can meet its EST obligations.

Leveraging Existing Microgrid & Resiliency Programs

1. *How should microgrid projects that participate in the suspension of the capacity reservation component of the standby charge, pursuant to Decision 21-07-011, be required to help address a system capacity shortfall, particularly during the net peak hours?*

Microgrids should be encouraged, not required, to participate in emergency capacity services. If the Commission wishes to incentivize load reduction, the proper market signals should be put in place to accomplish that objective. D.21-07-011 should stand as its own policy decision.

2. *How should existing programs like the Make Ready and Temporary Generation program be leveraged to address a system shortfall, particularly in the net peak hours?*

These programs are not necessary to address a system shortfall and are already serving a previously defined purpose.

3. *How should existing microgrids that have been awarded grant funds (e.g., projects awarded funding by the California Energy Commission or investor-owned utilities via EPIC) be further leveraged to reduce load, especially during net peak hours?*

Microgrids that have received funding through SGIP or EPIC should be eligible for the MRC's Proposal 1 as outlined. If microgrid customers wish to participate in emergency capacity

services, they should be compensated for those services, not be required to participate just because they received other funding sources. The commission could make participation in EST a consideration in future SGIP grants to microgrids.

4. *Approximately how many megawatts could existing programs address during the net peak hours in 2022? Please provide estimates per program.*

Modifications to Existing Microgrid Tariffs

1. *Which specific existing tariffs should be modified, or further modified, to enable microgrids to address a system capacity shortfall during net peak hours (e.g., the behind-the-meter microgrid tariffs)?*

Both of our Proposals are suggested as stand-alone additions to the behind the meter microgrid tariffs that the utilities have proposed in response to the Track 2 Decision.[15] In the proposals we have also attempted to specify which modifications to other tariffs are required. We have only responded to questions below to the extent that they go beyond the scope of the proposals.

a. *Provide an overview of how the tariffs should be modified.*
b. *Describe the outcome that the tariff change is intended to achieve (e.g., accelerate deployment of new microgrids or enhance system benefits of existing microgrids) and an estimate of the megawatt potential, if possible.*
c. *Describe how that outcome can help address a system capacity shortfall (e.g., by making additional generation or reducing load during net peak hours, or by reducing the impact of rotating outages) and how the availability of those resources will be ensured.*
d. *Approximately how many MW could the changes address during the net peak hours in 2022?*

If the Commission adopts the MRC's proposal as written, we estimate based on an informal survey of our members that MRC members could respond with as much as 1,000 MW of new installed capacity by 2023. Depending on how quickly the EST proposal is implemented, the combination of existing microgrids with capacity available and new microgrid projects that are deployed with accelerated interconnection timelines could potentially provide much of that capacity by the summer of 2022.

[15] R.19-09-009 Track 2 Decision D.21-01-018
http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=361442167

e. *Name the existing tariffs by identifying the rate schedule, rule, contract, or other document, or combination of documents, that should be modified.*

f. *Describe the specific changes to the document that should be made to achieve the desired outcome.*

Potential New Microgrid Programs and Projects

1. *What new microgrid projects, programs, or measures should be developed to address a system capacity shortfall, particularly in the net peak hours?*

See Proposal 2 above. Critical facilities are the first priority. In addition, since microgrids are generally designed to operate on a full-time basis (or at a minimum to shift solar generation to net peak hours) any microgrid serves to increase system capacity and, in particular, to provide capacity in net-peak hours. Throughout this proceeding the MRC has made a variety of suggestions aimed at creating a level playing field for microgrids. We don't propose to reiterate them all here, but all of them would advance the goal of increasing aggregate capacity through third party investment.

a. *How would the program help address a system capacity shortfall?*

b. *What is the target resource, customer, and/or market participants?*

Proposal 2 is targeted to owners, whether governmental or private, of critical facilities.

c. *How should an administrator for the program be chosen?*

Both of our specific proposals involve new or modified tariffs that would be administered by the utilities.

d. *Is it feasible to develop, launch, and operate the program in such a way that it can address net peak hours by the summer of 2022? If not, what timeline could the program be launched?*

e. *Approximately how many megawatts could the program address during the net peak hours in 2022?*

As discussed above, if the Commission adopts the MRC's proposal as written, we estimate, based on an informal survey of our members, that MRC members could respond with as much as 1,000 MW of new installed capacity by 2023. Depending on other project development factors like interconnection timelines for new projects, and whether existing microgrid projects would be eligible to provide resource adequacy, we expect much of that capacity estimate could be met by the summer of 2022. The elimination of uncertain departing load and standby charges that often destroy project economics coupled with payment for performance incentive ($2/kWh) consistent

with the Governor's Emergency Proclamation and an expedited interconnection process would send a clear, effective, and necessary signal to the microgrid market that the Commission is serious about bringing microgrid capacity to bear in addressing the current emergency.

V. Conclusion

The MRC appreciates the opportunity to provide its proposals for consideration in the expedited phase one of Track 4 and looks forward to continued collaboration with the Commission to reduce the capacity shortfall of California's energy system while making forward progress on the state's decarbonization, resilience, and equity goals.

Respectfully submitted,

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