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)

CLEAN COALITION COMMENTS IN RESPONSE TO THE PROPOSED DECISION ADOPTING SHORT-TERM ACTIONS TO ACCELERATE MICROGRID DEPLOYMENT AND RELATED RESILIENCY SOLUTIONS

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I. INTRODUCTION


II. DESCRIPTION OF PARTY

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement and interconnection of distributed energy resources (“DER”) — such as local renewables, advanced inverters, demand response, and energy storage — and we establish market mechanisms that realize the full potential of integrating these solutions. The Clean Coalition also collaborates with utilities and municipalities to create near-term deployment opportunities that prove the technical and financial viability of local renewables and other DER.

III. SUMMARY

a. Gas Generation should require a Renewable Resource Replacement Plan

The Proposed Decision should clearly reflect the goals inherent in SB 1339 and declare that this proceeding in no way subsidizes further development of fossil fuel generation, and support those goals with a pledge to replace any fossil fuel generation used for resilience with renewables-driven microgrids. Any IOU proposing fossil fuel generation for resilience purposes should be required to submit a proposal to the Commission detailing how they plan to replace such resources with DER within five years of the Commission’s issuance of a final decision.
b. Creating Preapproved-Single Line Diagrams (SLDs) is a great step towards streamlining interconnection.

In addition to the four mentioned categories of SLDs, which should not have a size limit, this proceeding should rapidly pursue Rule 21 export and WDAT streamlined procedures, including flat fees or (capped) allowances for upgrades at facilities in zones where rapid DER deployment is optimal.

c. Storage Charging Limits should include islanding requirements; the Commission should mandate that islanding is considered in Track 2 and 3.

The Clean Coalition supports allowing energy storage to import from the grid in pre-PSPS windows and removing rules surrounding size limits for energy storage, but believes that it is essential that these energy storage systems have some sort of islanding capabilities, otherwise having the energy storage provides no resilience (if it can’t be used during a PSPS or outage).

d. The new data sharing between utilities and local governments is good and should be continued.

The Clean Coalition supports increasing cooperation and information sharing between the Investor Owned utilities and local governments, tribal governments, and CCAs, including but not limited to required semi-annual workshops, a written microgrid interconnection guidebook, and an online portal. However, to fully realize this important objective, accountability procedures must be put in place for the Commission to gauge and monitor the level of transparency and good faith effort by the utility in such a collaborative process. An unrestricted, public information site should also be constructed in parallel, and local governments should have the option to grant temporary or limited portal access to non-profits or developers that partner with local governments/tribal governments/CCAs as such information is relevant to a proposed project.

e. The Commission should accept PG&E’s proposal on the condition that a transition plan to renewable DER be a required component.

The Commission authorizing the Make-Ready Program for the years 2020-2022 is allowing PG&E to make plans for infrastructure based on assumptions in the Temporary Generation Program. Though this program only contemplates using diesel generation for the 2020 wildfire season, the same locations will require backup generation year after year, necessitating the
transition to renewables-driven microgrids for a permanent resilient solution. The grid modernization upgrades and additional interconnection capacity resulting from the Make Ready Plan should also be used to integrate emerging seasonal storage technologies, including green hydrogen derived through renewable electrolysis. Therefore, for every location utilizing temporary natural gas generation in 2020, and other planned substation locations beyond 2020, PG&E and other utilities should be required to publish a detailed transition plan to renewable DER within five years as the hub of a community microgrid system in that location.

The Clean Coalition also supports the development of Community Microgrids, and thus applauds PG&E’s Community Microgrid Enablement Program (CMEP) but believes that the CMEP should be limited to only renewable Community Microgrids as required for California to achieve its SB 100 goals. The Proposed Decision should only be approved with a Renewable Microgrid prerequisite for the CMEP.

f.  SDG&E should be applauded for its proposals, including its EVCI program, which should be reconsidered and accepted as a pilot program.

iv.  COMMENTS

a.  Gas Generation should require a Renewable Resource Replacement Plan

The business-as-usual approach of allowing the IOUs to use fossil fuel generation rather than challenging them to install renewable solutions that provide true resilience is unacceptable going forward. Each utility should be held responsible for bringing California closer to the goals listed by the legislature through every project deployed in its service territory. While the Commission has specified allowing fossil fuel generation is only an interim solution, requiring each IOU to submit a Renewable Resource Replacement Plan to guarantee a transition to DER in five years – preferably a solar+storage microgrid – will guarantee accountability and urgency.

b.  Creating Preapproved-Single Line Diagrams is a great step towards streamlining interconnection.

i.  Proposal 1: Single-line diagram preparation with stakeholder input

The Clean Coalition agrees with the recommendation in the Proposed Decision, though it should be stressed that pre-approved single-line diagrams (SLD) should apply to replicable, recurring energy scenarios and not be limited in size. Approval of all projects that follow a pre-approved SLD should self-execute upon meeting the stated SLD criteria. In addition, to make
this proposal successful, the Commission needs to stress that the 80/20 rule being applied as the requirement of the percentage of projects covered by the newly created SLDs must apply to 80% of the projects in each category, not 80% of all projects in the aggregate. For this proposal to expedite interconnection in the short-term, it needs to apply to microgrids as a DER class. Each IOU should consider 80% of the projects related to non-export storage, 80% of the NEM and paired storage projects [AC & DC], and 80% of the NEM Solar projects.

In the long-term, SLDs should be created for WDAT and Rule 21 export configurations, to further streamline the interconnection for all microgrids and allowing Community Microgrids deployed for resilience to benefit from other revenue streams. In Track 1 Comments on Staff Proposals and IOU Proposals, the Clean Coalition wrote about the importance of:

Including flat fees or (capped) allowances for upgrades and facilities in zones where rapid DER deployment is of value. For example, where the utility can streamline the Cost Certainty Option in Rule 21 and provide a guaranteed fixed cost in 30 days, and timely construction of any utility facilities, that would greatly accelerate urgent deployment of local distributed generation and storage. The utility can further streamline the process by offering a fixed standard fee for interconnections that conform to the utility’s own interconnection capacity assessment (ICA) hosting capacity determination that no upgrades will be expected. In instances where 1. upgrades would greatly increase hosting capacity, 2. additional DER is deemed of equal or greater value in supporting local resilience, and 3. DER is expected to be deployed if the hosting capacity is available, then the utility should be authorized and required to perform hosting capacity upgrades. This addresses the “first mover” barrier in which no additional DER is deployed because the first applicant bears the cost of the upgrade.¹

ii. Proposal 2: Expedite utility sign-offs on installed projects

The Clean Coalition supported all three staff positions and applauds the choice in the Proposed Decision to accept Option 1 and Option 3; it is understandable why SCE and the other IOUs would want to retain the right to personal field inspections, but that traditional approach is labor-intensive and is not necessarily in the best interest of microgrid development (and the ratepayer) since modern technologies offer the same level of security on an expedited basis. The threat posed by the COVID-19 pandemic, and the virtual solutions created in response, makes it smart policy to social distance whenever possible, including the need to limit any traditional inspections and to utilize online inspections whenever possible. SCE commented that it has already begun using virtual inspections and PG&E and SDG&E should upgrade as soon as possible to make it consistent throughout the IOU service territories.²

¹ Clean Coalition Reply Comments on Staff and IOU Resiliency Proposals, Page 5
² SCE Reply Comments on Staff and IOU Resiliency Proposals, Pages 5-6
standardized virtual inspections and microgrid interconnection protocols are developed state-wide, the faster developers can help unleash widespread deployment of microgrids.

In the case that a project requires a second or physical initial inspection, the Commission should require the IOU provide a written notice explaining the need for such inspection without compensation in addition to fees related to standard virtual inspections. Alternatively, a more beneficial solution would be to implement the recommendations made by Tesla and CESA in their response comments to the Staff and IOU Proposals “to incorporate a sampling procedure to reduce the interconnection timeline burden if interconnection applicants have successfully installed and field tested some threshold number of template projects (e.g., first five projects using a specified and approved template-based design).” The Clean Coalition also mentioned this alternative in its response comments, arguing that this approach allows utilities to retain their right to a physical inspection, but only if the developer is unknown (and not time-tested) or there is an unusual discrepancy with the proposed project that cannot be ascertained.

### iii. Proposal 3: Utilities hiring additional staff

The Clean Coalition supports the Commission’s recommendation to require utilities to hire additional staff, although it is worth re-emphasizing that the hiring and training process may make this a longer-term project than originally contemplated. The metric for determining compliance with this order should not be Rule 21 interconnection timelines. These traditional standards were created in a different era to allot generous timeframes to the utilities, including extra time for cases with unforeseen circumstances. Given that this proceeding is focused on quickly developing resilience at critical facilities, maintaining the generous status quo for interconnection timelines is simply insufficient to achieve Track 1 objectives when a more effective solution exists. The goal should be to significantly shorten interconnection processing times to facilitate accelerated microgrids development. Under the current system, IOUs often take two weeks or more to transfer and review a request when an application advances from one department to another because it moves to the back of the queue when it is received by the next department. In reply comments to the Staff and IOU Proposals, the Clean Coalition wrote:

> Note that much of the delays occur not in the application review process but after an Interconnection Agreement has been completed as interconnection applications bounce between utility departments for final engineering, confirmation of deposits, service planning and construction scheduling for any customer interconnection facilities or

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3 CESA Reply Comments on Staff and IOU Resiliency Proposals, Page 10
upgrades that are required (attach example. This is in part because DER interconnection requests are given lower priority than urgent needs of existing customers. In this case, interconnection requests supporting resilience may be prioritized in order to support service to existing customers.\(^4\)

A two weeks delay to initiate a 30-minute review is the height of bureaucratic inefficiency even when each staff member is working efficiently, and these multi-week steps between departments quickly accumulate, resulting in an extremely long application process. Hiring of additional staff needs to correlate with shorter theoretical interconnection timelines and a substantial reduction in actual interconnection time.

**iv. Proposal 4: Allow the use of Advanced Metering Infrastructure for Electric Isolation.**

In the Proposed Decision, the Commission agrees that the use of Advanced Metering Infrastructure (AMI) – also called smart metering – is a legitimate resilience strategy, though by declining to adopt the proposal (or even requiring the utilities to consider a plan for implementation), the Commission is ignoring the high potential that existing AMI equipment has to support prioritization of critical loads. Accelerated clarification and resolution of smart metering technical and logistical elements will result in faster and more widespread deployment of grid isolation capabilities throughout the state. Without sufficient due diligence, suggesting that AMI should be considered in Track 2 of the proceeding along with a pilot program is equivalent to having a future conversation without properly researching any parameters for holding such a conversation. At a minimum, the Commission should mandate, not suggest, a pilot program for Track 2.

c. **Storage Charging Limits should also include islanding requirements; if the Commission will not approve them not, they should mandate that an islanding requirement is considered in Track 2 and 3.**

i. **Limits on Storage Charging**

Energy storage can fully utilize resilience benefits when it can both import (charge) from the grid and export to the grid. Since this track is only considering pre-PSPS windows, it is understandable – though not necessarily comprehensive and far-reaching – that the Commission chooses to adopt Proposal 2 as being most consistent with the current NEM framework. Taking a

\(^4\) Clean Coalition Reply Comments to Staff and IOU Resiliency Proposals, Page 4
small, big important step, is acceptable in the interim, given the potential resilience benefits it can bring. However, ideally, any energy storage charged with a 100% renewable resource should be able to export to the grid. With that in mind, the concept of storage exporting to the grid should be revisited in Tracks 2 and 3 to consider the ways that AMI will make precise BTM import/export power flow analysis datable that is instantly shareable with an IOU, at which time the Commission should revisit the subject and adopt Proposal 1. The time frame for the Commission to revisit this decision should become clear as the Energy Staff, utilities, and associated stakeholders gather information in the next 24 months, making it essential that information gathering is a transparent process with regular updates – at least semi-annually to the Smart Inverter Working Group. The Working Group should then provide a report to the ALJ and Commissioner in charge of this proceeding (i.e. R. 19-09-009).

ii. Limits on Storage Sizing and Capacity

By adopting Proposal 2, the Commission is choosing to contravene the express wishes of CPUC staff and a majority of the parties in the proceeding. In fact, the Proposed Decision incorrectly represents the positions of the parties that are claimed to be “in favor” of Proposal 2. For example, CESA did support Proposal 1 in their comments, but in the same sentence argued that they “preferred” Proposal 2.6 CESA’s concern was that this proposal could be interpreted to mean, “that any storage system deployed with NEM solar that exceeds the 150% capacity limit would have to configured to provide backup,” creating issues for energy storage deployed solely for demand charge management. Similarly, CALSSA actively supports Proposal 2 in their comments, but only because islanding requirements might adversely affect storage being used for demand charge management.6 Neither CESSA nor CALSSA never actually remark on the importance of grid isolation to ensure resilience; if there is a distribution outage any resource without grid isolating capabilities is unusable. The Commission could accept Proposal 1, with an exception for energy storage purposed for demand charge management.

Moreover, the Climate Center does not openly support either proposal as suggested in the Proposed Decision, instead iterating a policy statement that the Clean Coalition is in strong alignment with: “Nothing about the rules should stand in the way of allowing projects to be sized to meet customer and community needs in preparation for or during an emergency.” If the

5 CESA Reply Comments to Staff and IOU Resiliency Proposals, Page 29-30
6 CALSSA Reply Comments to Staff and IOU Resiliency Proposals, Page 11
The new data sharing between utilities and local governments is good and should be continued.

Proposal 1 – Utility options

Given the importance of safety and public health during the covid-19 pandemic, the Proposed Decision should be modified to allow the IOUs to conduct webinars in the place of face-to-face meetings. Moreover, such information that is relayed at a meeting should be sent, as a written report, to county officials as well as the Commission to ensure transparency.

Proposal 2 – A resiliency project management guide

The Clean Coalition supports this idea and only requests that the Commission require all IOUs to collaborate on this project to create a state-wide guide and then update it at least annually. Just as important as the guidebook is a state engagement program where local jurisdictions would be allowed to identify IFOM resilience solutions, with the logical next step being the requirement that a utility should consider at least one such project annually in each county in its service territory.

Proposal 3 – A one stop resource for reliable guidance

The Clean Coalition supports the adoption of the proposal.

Proposal 5 – Develop online portals for data sharing

This proposal is an excellent idea and it cannot be built quickly enough after the Proposed Decision is adopted. The Commission should approve this Proposal with a modification to ensure the construction of an unrestricted, public information in parallel, giving local governments the option to grant temporary or limited portal access to non-profits or developers that partner with local governments/tribal governments/CCAs as such information is relevant to a proposed project. Currently, many critical facility microgrids are being deployed through partnerships between local governments and third party developers who can take advantage of existing tax credits, making the private sector an essential part of the equation to consider when it comes to collaboration and sharing information.

The Commission should accept PG&E’s proposal on the condition that a transition plan to renewable DER be a required component.

Multiple parties, including the Clean Coalition, have clearly stated that any proposal by PG&E to install temporary natural gas generation at substation microgrids is unacceptable.
because use of fossil fuel generation, which, even on a temporary basis, is clearly contrary to objectives established by state legislation and regulatory policy. Accepting PG&E’s proposal without a clear transition plan towards renewable microgrids demonstrates tacit approval by the Commission for purchasing or leasing foreseeably stranded assets for resilience purposes, with full knowledge that any fossil fuel generation moves California in the opposite direction from the goals stated in SB 350, SB 100 and a litany of other bills and regulatory policy that have accumulated over the years. The Clean Coalition requests that the Proposed Decision be modified to require PG&E to submit a transition plan to eliminate the use of fossil fuel generation for resilience purposes after the 2020 fire season. Moreover, for each substation (or other location) where PG&E has contracted temporary generation, the Commission should require that PG&E develop a transition plan to replace any fossil fuel generation with renewable DER, particularly storage assets capable of converting the substation into a permanent renewables-driven microgrid within five years of the 2020 wildfire season. The same requirement should be placed for any other proposed new fossil fuel generation within the service territories of all IOUs who will execute contracts for temporary and/or mobile fossil fuel generation for resilience purposes.

In the Goleta Load Pocket region (GLP), which the Clean Coalition has referenced in this proceeding, SCE implemented a similar strategy, contracting to deploy temporary mobile diesel generators as emergency backup generators leading up to the strong forecasted El Nino season.

The GLP spans 70 miles of California coastline, from Point Conception to Lake Casitas, encompassing the cities of Goleta, Santa Barbara (including Montecito), and Carpinteria. The region is at the peninsular end of the SCE’s service territory, and relies entirely on one coterminous set of transmission lines routed through 40 miles of rugged mountainous terrain.
Southern California Edison (SCE) has repeatedly characterized these transmission lines as at risk for catastrophic failure from fire, earthquake, or heavy rains, which could potentially cause a crippling, extended blackout of weeks or even months. In 2015, leading up to the expected wet winter in the El Nino season, SCE contracted 79.5 MW of temporary generation, via 41 diesel generators, that were put at three substation locations.

Though the generators were not used, their strategic placement offer a great opportunity to determine what SCE considers to be necessary to make the region resilient. According to Clean Coalition calculations, to achieve indefinite renewables-driven backup power that provides 100% protection to the GLP against a complete transmission outage (“N-2 event”), 200 MW of solar and 400 megawatt-hours (MWh) of energy storage needs to be sited within the GLP.

Permanently replacing temporary diesel generators with installed renewable generation and storage capacity at the three substations would cover 40% of that 200 MW resiliency floor, moving the area that much closer to 100% protection against a transmission outage of any duration. A full transition to solar+storage microgrids would add another layer of permanent resilience the generators were never able or designed to achieve.

Following that rainy 2015 winter, SCE should have installed permanent renewable generation to ensure resilience; the same should be done for all 300 MW of temporary natural gas generation PG&E has contracted for. The Clean Coalition has extrapolated data from proposed Peaker Plants in SCE’s service territory to determine that a Community Microgrid is the most cost-effective solution when compared to a natural gas Peaker Plant.
Designed properly, a Community Microgrid can operate in the aggregate as a Virtual Power Plant (VPP) to render Peaker Plants obsolete. A VPP is an efficient method for a utility to get a high penetration of DER on the distribution grid, capable of responding to system-wide calls for frequency regulation, replacement reserves, ancillary services, load shedding, etc. A Community Microgrid (acting as a VPP) provides a more cost-effective version of reliability than a Peaker Plant, while offering an additional layer of resilience. In the electrical grid of the future – that California should be striving to achieve – a Distribution Service Operator (DSO) will manage a sectionalized populated with a series Community Microgrid acting like VPPs. Prioritizing widespread deployment of DER and critical facility microgrids is a necessary step towards deploying Community Microgrids acting as virtual power plants. Requiring all IOUs to transition towards renewables-driven microgrids ensures that any permanent infrastructure upgrades will ultimately interconnect renewable DER and not fossil fuel generation.

Under the Make-Ready Program, PG&E will be developing permanent interconnection infrastructure to enable grid isolation; this grid modernization will facilitate development of community microgrids with pre-approved single line diagrams within a short period of time. Thus, both the Make Ready Program and Temporary Generation Program should be conditionally approved subject to these modifications, which are especially important given the Commission’s interest in mitigating adverse health conditions caused by fossil fuel particulates that have been shown to exacerbate vulnerability to the worst impacts of the COVID-19 virus.\footnote{See Gerretson, Isabelle, “How air pollution exacerbates Covid-19,” BBC Future Planet, April 27, 2020.}

The Proposed Decision notes the adverse health effects of diesel generators and only approves them “on balance,” a phrase that cannot possibly be justified beyond the upcoming fire
season, especially given the costs being incurred by stranded assets. For the time being, gas-fired generation is better than no solution at all given the short time-frame leading into the 2020 fire season. Going into 2021 and beyond, an extremely heavy burden should be placed on utilities to justify any future requests for temporary fossil fuel generation, given the one year “head start” to design and implement a permanent renewable resilience solution.

The same condition should apply to PG&E’s Community Microgrid Enablement Program (CMEP) to guarantee development of renewables-driven Community Microgrids similar to the Redwood Coast Airport Microgrid currently under development in PG&E’s service territory. Properly designed and implemented, the CMEP would be an ambitious step towards minimizing the impact of future outages, while also providing significant economic benefits.

An economic analysis of the GLP conducted by the Clean Coalition shows significant benefits to the GLP over 20 years from adding blocks of 10 MW of solar, 20 MWh of energy storage, and a block combining the two.⁸ A true Community Microgrid brings a variety of benefits – improved resilience, reliability, economic, and community health – assuming that it is properly valued and has the policy mechanisms in place to provide bankable revenue streams.

The Clean Coalition supports Community Microgrid development & lauds PG&E’s CMEP – with the aforementioned modifications – but asks that the Commission to realize the true value of a Community Microgrid will remain understated until there is a standard value of resilience. Considering that this proceeding is focusing on microgrids for resilience purposes, the Clean Coalition requests that the Commission require that a value of resilience metric be considered in Track 2 of this proceeding.

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It is impossible for the Commission to meet the goal listed in SB 1339, “to facilitate the commercialization of microgrids for distribution customers of large electrical corporations,” without considering the true value of the underlying DER powering a Community Microgrid.

The Clean Coalition also notes that the true value of DER within the distribution grid is being valued most accurately in non-PTO service territories, where Transmission Access Charges (TAC) are measured at the transmission-distribution substation rather than at the customer meter. Due the 2020 updates to the Avoided Cost Calculator, all three Investor Owned Utilities are acknowledging the role that DER, Community Microgrids, and other Non-Wire Alternatives (NWAs) can have in avoiding future transmission upgrades, estimating a 2.5¢/kWh savings on projects that avoid transmission upgrades. As the CAISO is active in this proceeding, a perfect opportunity exists for collaboration on an issue that both agencies agree need fixing. As demonstrated in the figure below, Transmission Access Charges that cost the ratepayer 2.5¢/kWh for future transmission values and 2¢/kWh for current and past costs, resulting in a 4.5¢/kWh penalty on all clean energy projects that do not use transmission infrastructure.

The true cost of Transmission Access Charges

Just as the later tracks of this proceeding should ascribe a standard value of resilience, the Commission would be remiss if they did not mandate an in-depth discussion and analysis of DER value streams & damages caused by including the TAC penalty as an external project cost.
f. SDG&E should be applauded for its proposals, including its EVCI program, which should be reconsidered and accepted as a pilot program.

The Clean Coalition supports SDG&E’s idea to create LADC software and believes that it should be used throughout the IOU service territories if successful. We also support SDG&E’s concept for a Cameron Corners Microgrid – it is good that SDG&E is thinking about this kind of resilience. We urge SDG&E to go forward with a full design for a pilot, given the imminent rejection of this proposal by the Commission. Installing proper Electrical Vehicle Charging Infrastructure (EVCI) is essential to provide resilience in a world increasingly populated with electric vehicles. Being able to charge in the period before an outage or PSPS – especially an outage that could last for multiple days – is an absolute necessity to be considered mobile.

v. CONCLUSION

The Clean Coalition appreciates the opportunity to submit these comments in response to the Proposed Decision. It is critical that the Commission continues to take ambitious steps forward to increase the deployment of renewable Community Microgrids, choosing the right decision rather than an easy, short-term fix. Delaying important details, such as establishing a standardized value for resilience, will only obstruct reaching the goals enacted into law with SB 1339 and SB 350. We request modification of the Proposed Decision as described above in support of true microgrid commercialization with clear standards and procedures, and a relatively seamless permitting and approval process via a well-designed online portal that engages all stakeholders in the development process.

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