

**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

**VOTE SOLAR AND THE CLIMATE CENTER  
REPLY COMMENTS ON THE ASSIGNED COMMISSIONER AND ADMINISTRATIVE  
LAW JUDGE'S RULING SEEKING COMMENT ON POLICY QUESTIONS AND AN  
INTERIM APPROACH FOR MINIMIZING EMISSIONS FROM GENERATION DURING  
TRANSMISSION OUTAGES**

W. Woodland (Woody) Hastings  
Energy Program Manager  
The Climate Center  
PO Box 3785  
Santa Rosa, CA 95402  
Tel: (707) 829-3460  
E-Mail: [woody@theclimatcenter.org](mailto:woody@theclimatcenter.org)

Robert Perry  
Consultant to Joint Parties  
Synergistic Solutions  
3686 Young Wolf Drive  
Simi Valley, CA 93065  
Tel: (818) 384-4557  
E-Mail: [robert.perry108@gmail.com](mailto:robert.perry108@gmail.com)

Ed Smeloff  
Vote Solar  
360 22nd St. Suite 730  
Oakland, CA 94612  
Tel: (415) 817-5065  
E-Mail: [ed@votesolar.org](mailto:ed@votesolar.org)

October 2, 2020

## TABLE OF CONTENTS

I.	Introduction .....	1
II.	Creating a Loading Order for Minimizing Emissions from Temporary Generation During Outages.....	1
III.	Need for a Microgrid Tariff to Provide Market Signals for Microgrid Financing and Development.....	4
IV.	Consultation with Local Governments and CCAs is Essential for the Development of Strategies to Reduce Emissions Associated with Transmission Outages.....	5
V.	Conclusion .....	7

**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

**VOTE SOLAR AND THE CLIMATE CENTER  
REPLY COMMENTS ON THE ASSIGNED COMMISSIONER AND ADMINISTRATIVE  
LAW JUDGE’S RULING SEEKING COMMENT ON POLICY QUESTIONS AND AN  
INTERIM APPROACH FOR MINIMIZING EMISSIONS FROM GENERATION DURING  
TRANSMISSION OUTAGES**

**I. Introduction**

Vote Solar and The Climate Center (referred to hereafter as the “Joint Parties”) respectfully submit these reply comments pursuant to Administrative Law Judge Rizzo’s September 4, 2020 Ruling seeking comment on policy questions and an interim approach for minimizing emissions from generation during transmission outages. Vote Solar is a 501(c)(3) non-profit organization, working to lower solar costs and expand solar access. Vote Solar advocates for state policies and programs needed to repower our electric grid with clean energy. The Climate Center is a California 501(c)(3) nonprofit organization founded in 2001 with a mission to deliver rapid greenhouse gas (“GHG”) reductions at scale, starting in California.

**II. Creating a Loading Order for Minimizing Emissions from Temporary Generation During Outages**

The Joint Parties agree with the comments of numerous other parties<sup>1</sup> that in developing resources for long-term service at so-called “make-ready” substations<sup>2</sup>, preference should be given to clean, non-emitting technologies through a clear loading order established to guide utility and third party investments in minimizing harmful emissions from generation during transmission outages. Diesel generation should be kept to an absolute minimum and considered only as a “last resort” in supplying

<sup>1</sup> Bioenergy Association (p.2), CEERT (p. 3), Microgrid Resource Coalition (p. 4).

<sup>2</sup> In the Track 1 decision in this proceeding the Commission approved a 2020 Temporary Generation and Make-Ready programs for substation-level microgrids.

temporary power during public safety power shut-off (“PSPS”) outages.<sup>3</sup> In this Track 2 proceeding, the Commission should adopt a loading order that prioritizes cleaner and lower-cost options for reducing harmful emissions from the temporary diesel generators that have been deployed during the 2020 fire season.

PG&E observes in its opening comments that many if not most individual technologies have various characteristics that limit their use as a single alternative to diesel generators at the make-ready substations. Instead, PG&E calls for consideration of complementary “teams” of technologies that “together might provide a preferable solution, considering cost, reliability/performance, and environmental benefits, when compared to diesel alone”.<sup>4</sup> PG&E recognizes that the composition of these “teams” will vary by location, depending on a variety of factors and argue for project-specific analyses.<sup>5</sup>

The Joint Parties agree with PG&E that a way to optimize solutions at specific locations would be “to mix and match ‘teams’ using relatively localized and diverse procurements, in order to seek technology combinations that work better together cohesively than separately”.<sup>6</sup>

PG&E further observes that a portfolio approach will be more valuable if sustained as part of a longer-term procurement framework. In their opening comments PG&E states “it may be practical to consider a solutions ‘loading order’ similar to that used in Integrated Resource Planning today.”<sup>7</sup>

Customer-side of the meter distributed energy resources (“DERs”) can be an important component of a loading order for resiliency solutions. In their opening comments, PG&E argues that “existing and newly deployed customer-sited DERs can act as load modifying resources, which can complement temporary generation by reducing the fuel required during an extended outage”.<sup>8</sup> The Joint Parties agree with PG&E that customer-sited DERs can provide additional local resilience as advances in

---

<sup>3</sup> Clean Coalition (p. 7), David Pepper, on behalf of various CCAs (the “CCA Comments”), p. 10.

<sup>4</sup> PG&E Opening Comments, p. 6

<sup>5</sup> Ibid.

<sup>6</sup> Id., p. 8

<sup>7</sup> Id., p. 9

<sup>8</sup> Id., p. 16.

control applications and communications systems are developed and deployed.

To further analyze alternatives to diesel generators PG&E contracted with a third-party consultant, ADL Ventures, to write a white paper it labels “The ADL Report,” which PG&E has moved to introduce into this proceeding.<sup>9</sup>

The Joint Parties support the concept of a portfolio or “team” approach to minimizing the use of diesel generators at make-ready substations. In our opening comments, we recommended that the Commission adopt a multi-layered approach to develop community resilience that minimizes the need for temporary back-up generation.<sup>10</sup>

Cleaner resources with higher capacity factors should be developed at the make-ready substation or within the area served by the substation. A loading order approach would support the installation of a range of low to zero-emission resources that can supply power for outages of shorter duration (~ 4 hours), with fossil-based generation deployed and brought on-line only after cleaner, shorter-duration options are exhausted. Clean energy resources can also be used in concert to reduce the purchase and use of diesel back-up generation (“BUG”) resources and enhance grid efficiency.

The Joint Parties agree with the comments by Microgrid Resources Coalition (“MRC”) that the Commission must look beyond the make-ready substations as the focal point for microgrid development and instead develop diverse resiliency strategies<sup>11</sup> and with Doosan Fuel Cell America that advocates for a microgrid tariff, “developed not only for substation de-energizations but for customer resiliency in general...[that] can

---

<sup>9</sup> Id., pp. 5-6. PG&E moved on September 25 to include a discussion draft of the 50-page ADL Report into the record of this proceeding. The ADL Report contains detailed information about over a dozen alternative resources to diesel generation that might be employed to enable cleaner microgrids. The ADL Report discusses the feasibility of alternatives from technical, economic, and environmental perspectives. Parties will have had just one week to review this complex report along with the opening comments of over 25 parties. While the ADL Report provides an interesting perspective on alternative technologies, it would be inequitable to allow it into the record of this proceeding at this late date without providing other parties a reasonable opportunity to review and challenge the Report’s assumptions and inputs. For these reasons, the Joint Parties recommend that the ALJ deny PG&E’s motion to include the 50-page ADL Report into the record of this proceeding. Should the ALJ decide to allow the ADL Report into the record, then an extension should also be granted to provide ample opportunity for review and comment by other parties to this proceeding.

<sup>10</sup> Vote Solar and Climate Center opening comments, pp 4-5.

<sup>11</sup> MRC, pp. 6-7.

facilitate the deployment of behind-the-meter assets that could be called on by the utility to re-energize substations while also providing resiliency and cost savings for the customer at all other times.”<sup>12</sup>

The Commission should also keep in mind that while this ALJ ruling requests parties to contemplate alternative technologies to minimize harmful emissions and the use of temporary diesel generators at substations, the larger scope of this proceeding concerns facilitating and accelerating *commercialization* of microgrids and integration of their attendant technologies. Even the proposed temporary siting of mobile diesel generators at substations is a strategy intended to deter the continued proliferation and inevitable usage of small, high-emission diesel back-up generators at commercial and residential sites during power outages. While these issues are important, they in of themselves do not constitute a strategy to commercialize microgrids.

### **III. Need for a Microgrid Tariff to Provide Market Signals for Microgrid Financing and Development**

The need to counter market momentum towards small diesel BUG purchases driven by concern about wildfires and public safety power shut-offs (PSPS) needs to be addressed through the establishment of microgrid tariff(s) that will provide clear and consistent market signals to enable the cost-effective financing and development of permanent microgrids. In addition, such a tariff or program should acknowledge the potential value and encourage the incorporation of vehicle-to-grid (V2G) technology for medium to heavy-duty fleet vehicles, where operators can dispatch such V2G-enabled vehicles to both substations and other strategic points of interconnection within the distribution grid.

As part of its wildfire mitigation efforts, PG&E states that they will have installed over 600 switches to reduce PSPS impacts through grid sectionalization.<sup>13</sup> A strategy needs to be developed to leverage the grid resiliency benefits that could be obtained if these switches and back-ties were designed to be microgrid-ready where permanent or mobile assets could supply power to the affected section of the grid.

---

<sup>12</sup> Doosan, pp. 9-10.

<sup>13</sup> ADL Report, p. 8.

#### **IV. Consultation with Local Governments and CCAs is Essential for the Development of Strategies to Reduce Emissions Associated with Transmission Outages**

The Joint Parties agree with the following comment made by Marin Clean Energy, Peninsula Clean Energy Authority, Central Coast Community Energy, Redwood Coast Energy Authority, Pioneer Community Energy, Sonoma Clean Power Authority, and East Bay Community Energy (collectively, the “CCA Comments”)<sup>14</sup>:

The question before the Commission is not a binary one of whether citizens should endure PSPS events for the coming decade or tolerate diesel generators in their communities. The Commission should recognize that the ideal solution will be informed by citizen preferences and grid conditions on a location-by-location basis. In this light, the CCAs believe that the Interim Approach provides a reasonable, well-considered, and achievable roadmap for 2021... However, the CCAs do believe that the Interim Approach can be substantially improved.

The Joint Parties further agree with the CCA Comments that in addition to considering: (a) historical meteorological data; (b) historical outage data; (c) fire spread modeling; (d) transmission asset condition information; and (e) transmission operability assessment information, PG&E and the other IOUs should also consider (f) expected reductions in outage frequency, scope, and duration due to operational improvements and T&D safety upgrades; and (g) reductions in the amount of load that needs to be served by backup generation due to other resource and microgrid deployments.<sup>15</sup>

We agree that including these considerations will help to avoid unnecessary or duplicative backup generation deployment and their associated emissions. Engagement with local communities is essential for the successful mitigation of PSPS events. The Interim Approach should require that all permanent generation must be developed in coordination with, and with the consent and full involvement of the relevant CCA program and local governments.

The CCA Comments observed that in D.20-06-017, the Commission required that PG&E “collaborate with the CCAs in its service territory for planning and

---

<sup>14</sup> CCA Comments, p. 13.

<sup>15</sup> Id., pp. 13-14.

procurement processes for Make-Ready [substation-level microgrid generation] resources that may be deployed in the CCA's service territory."<sup>16</sup>. According to the CCA Comments:

A number of CCAs are working on, or have interest in, projects that may reduce or eliminate the need for IOU-supplied temporary generation, including distribution connected microgrids in high-outage-risk areas and targeted deployment of preferred resources in high-risk areas. In addition, some CCAs may have an interest in using existing or new CCA-procured generation resources (either temporary or permanent) to partially or fully supply IOU islanded substations during PSPS events.

The Joint Parties strongly agree that strategies and solutions implemented under this proceeding must involve continuous and coordinated collaboration not only with CCAs, but also the constituent municipal governments and unincorporated communities within their service territories. A utility-centric, "substation-only" approach within the IOU's operational domain could exclude CCA and municipal programs, projects and objectives and therefore be less effective in building community resilience.

An effective, comprehensive approach to microgrid development should actively seek to incorporate these local planning efforts wherever possible and develop strategies that will dissuade governments, businesses and households from purchasing diesel BUG units. As stated earlier, development of microgrid tariff(s) can open up private investment and innovative microgrid development which can significantly reduce, and even eliminate the need for temporary diesel BUG capacity over time.

The Joint Parties also agree with the following comment made in the CCA Comments that pilot projects should only be permitted if "intended to serve substations that are anticipated to have long-term backup-generation needs (lasting for the expected pay-off period of the generation asset) that will not be significantly reduced or eliminated by current or planned T&D system upgrades or operational improvements within the generation resource's expected capital cost recovery period."<sup>17</sup>

---

<sup>16</sup> Id., p. 14.

<sup>17</sup> Id., p. 16.

The Joint Parties further agree with the CCA Comments that while costs for zero-emission microgrids may be higher than fossil-fueled technologies for a variety of reasons, the IOUs should not be allowed to dismiss clean substation microgrid pilot development based solely on narrow calculations regarding cost reasonableness that fail to fully account for environmental and social externalities.

In alignment with previous comments herein concerning the need for continuous collaboration and coordination, the Joint Parties recommend that CCAs be initially consulted concerning any substation pilot proposed within their service territory and that such projects meet or are in alignment with CCA requirements and objectives, and that all project resources be procured within the CCA's service territory to the fullest extent possible.

## **V. Conclusion**

In conclusion, the Joint Parties recommend that the Commission adopt a clear loading order for the minimization of harmful emissions from temporary diesel generators, require the investor owned-utilities to collaborate with local governments and CCAs regarding the siting of permanent generation at make-ready substations and initiate workshops to develop effective microgrid tariff(s).

We urge the Commission to advance this proceeding, and leverage the decisions being made in proceedings concerning wildfire mitigation and public safety power shutoffs, by focusing on this proceeding's primary mandate: the commercialization of microgrid systems through implementation of microgrid tariff(s).<sup>18</sup> A microgrid tariff structure will enable financing and installation of microgrids at various sites ranging from single-family residences to large commercial and municipal facilities and advance the integration of Vehicle-to-Grid Technologies.<sup>19</sup> Such a tariff system, combined with

---

<sup>18</sup> Nat. Fuel Cell Research Center (pp. 4, 18, 24, 26).

<sup>19</sup> In our opening comment we noted that the Final Report of the Joint Agencies Vehicle-Grid Integration Working Group, representing a 10-month multi-agency review process involving a wide range of stakeholders, represents a significant state interest and investment into advancing V2G technologies. California Public Utilities Commission DRIVE OIR Rulemaking (R. 18-12-006), "Final Report of the Joint Agencies Vehicle-Grid Integration Working Group," June 30, 2020.

continuous collaboration and coordination with CCAs and local institutions, can ultimately render the need for temporary generation resources obsolete.

The Joint Parties appreciate the opportunity to submit these reply comments to the Administrative Law Judge's ruling and look forward to continuing to work with the Commission and stakeholders in this proceeding.

DATED: October 2, 2020

Respectfully submitted,

By: \_\_\_\_\_ /s/

By: \_\_\_\_\_ /s/

W. Woodland (Woody) Hastings

Robert Perry

Energy Program Manager  
The Climate Center  
PO Box 3785  
Santa Rosa, CA 95402  
Tel: (707) 829-3460

Consultant to Joint Parties  
Synergistic Solutions  
3686 Young Wolf Drive  
Simi Valley, CA 93065  
Tel: (818) 384-4557

E-Mail: [woody@theclimatecenter.org](mailto:woody@theclimatecenter.org)

E-Mail: [robert.perry108@gmail.com](mailto:robert.perry108@gmail.com)

By: \_\_\_\_\_ /s/

Ed Smeloff  
Vote Solar  
360 22nd St. Suite 730  
Oakland, CA 94612  
Tel: (415) 817-5065

E-Mail: [ed@votesolar.org](mailto:ed@votesolar.org)