

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE



September 14, 2021

**Advice Letter 6204-E, 6204-E-A**

Erik Jacobson  
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77 Beale Street, Mail Code B10C  
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San Francisco, CA 94177

**SUBJECT: Evaluation of Clean Substation Pilot Project Opportunities Pursuant to D.21-01-018.**

Dear Mr. Jacobson:

Advice Letter 6204-E, 6204-E-A effective as of September 9, 2021, Per E-5164 ordering paragraphs.

Sincerely,

A handwritten signature in cursive script that reads "Edward Randolph".

Edward Randolph  
Deputy Executive Director for Energy and Climate Policy/  
Director, Energy Division

June 9, 2021

**Advice 6204-E**

(Pacific Gas and Electric Company U 39 E)

Public Utilities Commission of the State of California

**Subject: Evaluation of Clean Substation Pilot Project Opportunities Pursuant to D.21-01-018**

**I. Purpose**

PG&E submits this Advice Letter to: (1) inform the California Public Utilities Commission ("CPUC") of the results of the Request for Proposals for an alternatives to diesel pilot to provide generation support to substations de-energized during Public Safety Power Shutoffs ("PSPS") that have safe-to-energize load; and (2) request approval of a clean substation microgrid project to pilot the use of certain Demand Response ("DR") programs for the purpose of reducing the use of temporary diesel generation at substations during PSPS events, consistent with Decision ("D.") 21-01-018 (the "Decision").<sup>1</sup> For informational purposes, this Advice Letter also describes PG&E's ongoing work to evaluate the use of diesel alternative generation technologies at certain distribution microgrids during 2021.

**II. Background and Summary of Request**

The Commission initiated Rulemaking ("R.") 19-09-009 to develop a policy framework to facilitate the commercialization of microgrids and related resiliency strategies, and to implement Senate Bill ("SB") 1339 (Stern, 2018).

In Track 1 of the proceeding, the Commission adopted D.20-06-017, ordering short-term actions to accelerate microgrid deployment and related resiliency solutions, including solutions to accelerate interconnection of resiliency projects in advance of the 2020 wildfire season; modernizing existing tariffs to maximize resiliency benefits; solutions to promote collaborative engagement between the utilities and local and tribal governments; and approving an array of resiliency proposals set forth by PG&E and San Diego Gas & Electric Company.

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<sup>1</sup> D.21-01-018, App. A, pp. A-4 to A-6 (describing requirements for clean substation microgrid projects).

On January 14, 2021, the Commission adopted the Decision in Track 2 of the proceeding, which, among other items, established a pathway for utilities to reserve temporary generation for 2021 fire season and begin the transition from diesel mobile generation to alternative, cleaner backup power generation. In the Decision, the Commission authorized a utility to track the costs associated with reserving temporary generation in a memorandum account, including diesel as well as other temporary generation technologies, equipment, and services, for the purpose of providing power to the load of safe-to-energize substations during a PSPS outage, under certain conditions.<sup>2</sup> The Decision also authorized the utilities to establish new balancing accounts to recover costs, for among other things, the deployment of approved “clean substation microgrid projects” (sometimes referred to herein as a “Clean Substation Pilot”) up to a cap of \$350 million per utility.

The Decision required that PG&E submit a Tier 2 Advice Letter to “document [PG&E’s] plans to establish clean substation microgrid projects [(“Clean Substation Projects”)] located at, or able to serve, at least one substation.”<sup>3</sup> On March 5, 2021, PG&E submitted a Tier 2 Advice Letter (Advice Letter 6105-E) requesting authority to reserve temporary generation for use at substations in 2021. In the Tier 2 advice letter, PG&E conveyed that it was still evaluating bids for the Clean Substation Pilot and that it would submit one or more Clean Substation Project(s) for review and approval via a future Tier 3 Advice Letter. In a subsequent disposition letter, the CPUC’s Energy Division stated that the portions of Advice Letter 6105-E addressing clean substation microgrid projects would be disposed of separately from the request to reserve temporary generation.<sup>4</sup> The Energy Division also stated in that letter that it expected that PG&E would provide additional information regarding clean substation microgrid projects prior to its consideration of an additional disposition.<sup>5</sup>

PG&E is submitting this Tier 3 Advice Letter to address the requirements in the Decision related to clean substation microgrid projects. Specifically, this Advice Letter describes PG&E’s efforts to solicit substation-level generation projects, documents the infeasibility of deploying generation alternatives to diesel at substation-level microgrids in 2021 based upon the criteria set forth in the Decision and bids received, describes diesel alternative microgrid pilot projects that PG&E is planning for 2021 at the distribution feeder level, and proposes the expanded use of two existing DR programs as a Clean Substation Microgrid Pilot Project for approval.

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<sup>2</sup> *Id.*, App. A, p. A-1.

<sup>3</sup> *Id.*, App. A, p. A-4.

<sup>4</sup> Disposition Letter from Edward Randolph, CPUC Energy Division, to Erik Jacobson, PG&E, April 14, 2021, p. 1.

<sup>5</sup> *Id.*, p. 7.

### **III. Analysis of Clean Substation Generation Pilots**

#### **A. Summary of Request for Proposals Process**

This Section addresses the requirement in the Decision that PG&E document its plans to establish Clean Substation Projects located at, or able to serve, at least one substation<sup>6</sup> and the Request for Proposal (“RFP”) evaluation process undertaken by PG&E. The Interim Approach for Reserving Temporary Generation for Safe-to-Energize Substations in 2021 set forth in Appendix A to D.21-01-018 describes two primary goals: Keeping the lights on; and starting the transition to clean temporary generation. With regard to the second goal, the Decision states that the objective is “to increase utility and market experience and understanding of alternatives to diesel generation to facilitate a transition away from diesel in future years.”<sup>7</sup> The Decision is technology-agnostic when describing temporary “clean substation microgrid pilots projects” in Section 2 of Appendix A; instead, it sets forth certain cost-effectiveness, operational, and, in certain cases, environmental requirements that must be met by the Clean Substation Pilot Projects. Some of these requirements depend on whether the project is temporary or permanent and on when the project will be operating. For example, the subsection labeled 1.1 on page A-5 of Appendix A sets forth air pollutant emission reduction requirements that must be met by such projects beginning in the 2022 fire season, and it notes that completed permanent projects “must demonstrate a fully renewable microgrid.”<sup>8</sup>

PG&E has been actively seeking alternatives to mobile diesel generators for its substation microgrids since it began its Distributed Generation Enabled Microgrid Services (“DGEMS”) Program in 2019. More recently, the work included collaboration with ADL Ventures on the relative merits and costs of diesel alternative technologies and “teams” of such technologies, which included both a report submitted into the record of R.19-09-009 and a stakeholder workshop on the report. In anticipation of the need to seek diesel alternatives for the 2021 fire season, PG&E issued a Temporary Generation Request For Information (RFI) on November 3, 2020, and the RFI closed on November 12, 2020. The RFI was broadly distributed to 63 potential vendors. ■ of these vendors responded. ■ of those vendors indicated they could combine multiple technology types in a single bid, a key attribute of any diesel-alternative pilot. After the close of the RFI, PG&E continued to engage with vendors to discuss potential diesel-alternatives for the 2021 fire season.

Consistent with the requirements in the Decision that PG&E seek at least one Clean Substation Project in 2021, PG&E subsequently issued an all-source Temporary Generation RFP on January 20, 2021, seeking to reserve temporary generation for use

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<sup>6</sup> D.21-01-018, App. A, p. A-4.

<sup>7</sup> D.21-01-018, App. A, p. A-1.

<sup>8</sup> *Id.*, p. A-5.

at substations and other temporary generation workstreams for reducing PSPS impacts. Bids in response to the RFP were due on February 3, 2021.

The RFP overview stated: “PG&E is also looking to pilot diesel-alternative generation technologies and welcomes bids for solutions or combinations of solutions including, but not limited to natural gas generators, batteries, and fuel cells, as long as the single technology or combination of technologies meet all of PG&E’s operational requirements.”<sup>9</sup> Potential vendors were provided with anonymous, site-specific details for three substation sites and three distribution microgrid sites.<sup>10</sup> For each such site, PG&E provided a site description (including load, customer count, and other neighborhood considerations); a load profile; a description of the space constraints and availability; and the availability of pipeline natural gas. PG&E specified that each diesel alternative project is required to be able to serve the substation load for a minimum of 48 hours with a preference for 72 hours.<sup>11</sup> Shortlisted vendors received additional site-specific information. While the solicitation focused on temporary generation, PG&E did indicate it was open to “staged” generation that would remain in one location for the duration of the rental period. This was intended to enable diesel-alternative technologies, which often face mobility hurdles.

59 potential vendors were invited to participate in the all-source 2021 Temporary Generation RFP. [REDACTED] vendors provided complete bids. [REDACTED] of these vendors included diesel-alternative generation technology bids for the substation workstream. For the substation workstream, the only diesel-alternative technology bids received were for natural gas-fueled technology paired with battery storage and standalone natural gas technology. In all bids, the primary energy source was natural gas. In bids involving battery storage, battery storage represented less than 1% of the energy needed in a 72-hour event. Bids with natural gas and battery storage used the battery to peak shave and/or minimize engine spinning reserve. PG&E evaluated bids based on a variety of factors, including commercial, pricing, technical, safety, and supply chain responsibility. PG&E compiled a consolidated scorecard for down-selecting to a short-list of suppliers for further negotiations based on the highest scoring suppliers and the capacity information provided to ensure that sufficient supply can be contracted on the most favorable terms. Follow-up conversations with short-listed bidders and negotiations concerning diesel alternatives were ongoing at the time of submission of Advice Letter 6105-E, seeking to reserve conventional temporary generators, but are now complete.

It was PG&E’s view throughout the RFP process that while natural gas or natural gas plus storage technologies are still reciprocating engine technologies, they could be used in a Clean Substation Pilot to advance the State’s understanding regarding whether and how

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<sup>9</sup> See Appendix E, Para. 1.1. of PG&E Advice Letter 6105-E.

<sup>10</sup> See Appendix F (2021 Substation and Distribution Microgrid Diesel Alternative Pilot Projects) of PG&E Advice Letter 6105-E.

<sup>11</sup> Appendix E, Para. 1.4. of PG&E Advice Letter 6105-E.

the technology can be operationally scaled in these substation use cases and potentially other use cases to reduce or eliminate the reliance on diesel-based generation. However, PG&E ultimately found that a Clean Substation Project utilizing generation alternatives to diesel was infeasible for 2021 given the requirements set forth in the Decision. Instead, PG&E is proposing a demand response-based Clean Substation Project for 2021, as described below. PG&E is also currently exploring deployment of diesel-alternative temporary generation pilots at distribution microgrids<sup>12</sup> for 2021 as part of its effort to implement cleaner solutions for reducing PSPS impacts.

#### B. Summary of Pilot Site Selection Process

This section summarizes PG&E's process and evaluation criteria for selecting the candidate substation for a Clean Substation Pilot generation project in 2021.

PG&E undertook an analysis of the selection of top dedicated substation candidates for 2021 temporary generation to select a Clean Substation Pilot site. The criteria considered key factors to ensure feasibility and the best chance of meeting requirements set forth in the Decision. PG&E took into consideration the number of events a substation experienced in the 10-year historical lookback<sup>13</sup> and the load of customers expected to be safe to energize at each substation. A preferred candidate would have a strong chance of temporary generation being used during a PSPS event to ensure that the diesel-alternative technology is utilized, but would not be the largest substation served given the pilot nature of these initial projects. PG&E evaluated the space available at each selected substation to install gas, renewables, and battery storage installations that require more room than conventional diesel generators. This included land adjacent to substations that could potentially be leased, and excluded land adjacent to substations that could not reasonably be made ready in time for the 2021 PSPS season. PG&E also considered the distance to potential natural gas fueling sites to ensure reliable fueling of facilities and reduce the challenges of compressed natural gas (CNG) fueling logistics.

Table 1 below summarizes how the substation pilot was selected from the ten selected temporary generation substations. Using this ranking system, the top two Clean

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<sup>12</sup> The phrase "distribution microgrid" is used here to describe a microgrid serving customers on a single distribution feeder or portion of a feeder, as opposed to a microgrid serving an entire substation boundary. In the past, PG&E has referred to certain types of distribution microgrids as "Main Street Microgrids" and as "Resilience Zones." The Decision differentiated between substation microgrids and other types of microgrids used for PSPS mitigation and applied the interim framework only to substation microgrids. See D.21-01-018, App. A, p. A-1 ("This authorization does not limit or affect in any way the ability of a utility to reserve temporary generation for other purposes, such as providing power to community resource centers or critical facilities during events or serving load during routine grid maintenance, which fall outside the scope of this framework. Throughout the following document, 'temporary generation' refers to this specific use case above, where temporary generation is reserved for energizing safe-to-energize substation load subject to PSPS transmission outages.").

<sup>13</sup> This 10-year historical lookback methodology is described in detail in Advice Letter 6105-E.

Substation Pilot sites were Brunswick and Clear Lake. Given the pilot nature of these projects, Brunswick was not chosen as its peak load is one of the largest of all ten substations. Clear Lake was chosen as its peak load would be a more reasonable test of PG&E's operational ability to deploy a mobile diesel-alternative (e.g., natural gas plus storage or standalone natural gas) installation.

**Table 1: Clean Substation Pilot Selection Overview**

Substation	Peak Load (MW)	10-Year Lookback Impacts w/ 100+ STE customers	Peak Load per 1000 Feet (MW/1000 ft <sup>2</sup> )	Distance from CNG Station (Miles)
BRUNSWICK	18	14	0.94 <sup>14</sup>	38
CLEAR LAKE	14 <sup>15</sup>	13	0.39	74
CLOVERDALE	14	10	0.11	33
HARTLEY	12	12	1.30	65
HOOPA	4	12	0.13	183 <sup>16</sup>
KONOCI	14	10	2.33	73
LOW GAP	1	12	Site Visit Needed <sup>17</sup>	132
PLAINFIELD	23	15	3.43	15
POINT MORETTI	3	10	1.21	47
WILLOWCREEK	6	12	0.11 <sup>18</sup>	172

<sup>14</sup> Two-thirds of the area is outside the substation and would require civil work and any associated permits, putting the timeline at risk.

<sup>15</sup> After further subject matter expert review of this location, the peak load was adjusted from the 10 MW stated in PG&E Advice Letter 6105-E to 14 MW in this advice letter.

<sup>16</sup> CNG would need to be stored on-site or at a location equidistant from Hoopa and Willow Creek.

<sup>17</sup> Heavy vegetation and topography make net usable land unknown.

<sup>18</sup> Cell coloring does not include PG&E yard; CNG would need to be stored on-site or at a location equidistant from Hoopa and Willow Creek.

### C. Summary of Results

This Section summarizes the bids received by PG&E for Clean Substation Pilot generation projects and its determination not to pursue an alternative to diesel substation pilot in 2021.

As previously mentioned, the only diesel-alternative technology bids for substations received in the 2021 all-source Temporary Generation RFP were for natural gas-fueled paired with battery storage and standalone natural gas technologies. After an evaluation of diesel-alternative bids, PG&E determined that none of the bids met the cost cap requirements set forth in the Decision. The Decision stated that “[t]he cost of the project to ratepayers may not exceed twice the expected cost of utilizing backup diesel generation over the contract period. In total, the cost may not exceed the expected cost of 20 years of diesel rental and operation.”<sup>19</sup> Using Tier 4 diesel bids data from the 2021 all-source Temporary Generation RFP, PG&E determined that none of the diesel-alternative bids met this cost requirement. Confidential Attachment 1 provides details of PG&E’s cost analysis, including the workpapers underlying the analysis.

Given that none of the developer bids for an alternatives to diesel substation pilot met the cost cap set forth in the Decision, PG&E is not planning to pursue a generation-based clean substation pilot in 2021. PG&E is instead planning to pursue a demand response pilot/use case for substation microgrids.

## IV. Proposed Demand Response Clean Substation Microgrid Pilot

### A. Summary of Proposal

Although PG&E determined that a generation-based clean substation project is infeasible in 2021, PG&E proposes that the Commission authorize PG&E to test to what extent two existing demand response (“DR”) programs that are able to dispatch at the substation level could reduce the use of diesel temporary generation at substations and associated greenhouse gas (“GHG”) emissions and criteria pollutants during PSPS events. PG&E proposes that these DR program be triggered under the following conditions: (1) a substation that is both intended to be, and actually is, energized during PSPS via a microgrid; (2) the distribution feeder serving a particular enrolled DR customer or set of customers is safe to energize; and (3) enrolled DR customers fall within the microgrid and safe to energize boundaries.

This pilot will not impact planned procurement for temporary generation at substations in 2021. The intent would be to use lessons learned to explore the expansion of DR as a tool to reduce PSPS mitigation generation costs/emissions in future years.

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<sup>19</sup> D.21-01-018, App. A, pp. A-4 to A-5.



## B. Description of Base Interruptible (BIP) and SmartAC Programs

In this section, PG&E summarizes the two DR programs that it proposes to utilize for this pilot.

BIP is intended to provide load reduction on PG&E's system on a day-of basis when the California Independent System Operator ("CAISO") issues a curtailment notice. Customers who voluntarily enroll in the program are required to reduce their load down to or below their Firm Service Level ("FSL") when called to do so. Customers are given at least 30 minutes advance notice, and there is a maximum of one event per day and six hours per event. The program includes use limitations, including that there will not be more than 10 events per month, or 180 hours per year. Triggers for calling BIP include: when CAISO has determined that a Stage 1 emergency is imminent; a Stage 1, Stage 2, or Stage 3 emergency; during a transmission system contingency; or when needed based on forecasted system conditions. Customers may enroll directly with PG&E, or customers can sign up with third-party BIP Aggregators. BIP pays a monthly capacity payment, and there is a penalty if the enrolled customer fails to achieve the FSL during a called BIP event. There is no dispatch payment for each event.

SmartAC is a voluntary DR program where a load control device at a customer's premise can temporarily disengage the customer's primary central air-conditioning (A/C) unit or raise the temperature at the thermostat when the device is remotely activated. Smart AC pays a one-time up-front enrollment payment without any ongoing incentives.

## C. Basis for Piloting Demand Response Programs at Substations

Utilizing these two existing DR programs for a Clean Substation Microgrid Pilot by authorizing the support of substation-level microgrids during PSPS events as an authorized use case for the programs is a reasonable and practical way to reduce diesel use for the following reasons:

1. **Tariff authority:** Both the BIP and SmartAC tariffs have existing language allowing PG&E to call the resource for reliability and emergency needs. The BIP tariff provides that "PG&E in its sole discretion may dispatch one or more customers to address transmission or distribution reliability needs."<sup>20</sup> Similarly, the SmartAC tariff states that PG&E may dispatch "[d]uring emergency or near-emergency situations."<sup>21</sup> As these programs were developed and designed prior to the consideration of PSPS and substation-level microgrids as a potential use case, PG&E requests Commission clarification that these existing programs may be

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<sup>20</sup> Electric Schedule E-BIP Tariff:

[https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_SCHEDS\\_E-BIP.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-BIP.pdf)

<sup>21</sup> Electric Schedule E-RSAC Tariff.

[https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_SCHEDS\\_E-RSAC.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-RSAC.pdf)

dispatched for the PSPS mitigation use case described above. PG&E is therefore seeking a finding through this Advice Letter to clarify that PG&E can dispatch these resources in the narrow circumstances during which they could reduce load that would otherwise be served by backup diesel generation during PSPS outages.

2. **Cost Savings:** Rather than implement a new pilot program, PG&E could utilize existing customers as well as existing infrastructure for communications and dispatch.
3. **Locational dispatch:** PG&E is able to reprogram the dispatch of these resources at the substation level (typically they are dispatched at a broader geographic area for CAISO market purposes) without incurring additional costs.
4. **Potential MW.** As noted in Table 2 below there is a potential of approximately 14 MW in load reduction between the SmartAC and BIP Programs.<sup>22</sup>

Below PG&E summarizes<sup>23</sup> current enrolled DR MW by substation (Table 1), eligible DR MW by substation (Table 2), and number of Service Agreement Identifiers (SAIDs) associated with BIP and Smart AC ("SAC") at the locations (Table 3).

Table 1: Potential Load Reduction (MW) of Enrolled BIP and SmartAC			
Substation	BIP	SmartAC	Grand Total
BRUNSWICK	0	0.014	0.014
CLEAR LAKE	0	N/A	0
CLOVERDALE	0	0.018	0.018
HARTLEY	0	N/A	0
HOOPA	0	N/A	0
KONOCI	0	N/A	0
LOW GAP	0	N/A	0
PLAINFIELD	0	0.080	0.080
POINT MORETTI		N/A	
WILLOW CREEK	0	N/A	0
Grand Total		0.112	

\* SmartAC data only represents areas that will or have already converted from one way to two way Smart AC devices. Only the Point Moretti substation includes safe to energize and enrolled BIP customers.

<sup>22</sup> In addition, there is currently room in BIP. The cap on BIP participation is currently set at 494 MW and there are only 183 MW of BIP customers enrolled as of May 13, 2021.

<sup>23</sup> This is a snapshot of all substations based on a February 2021 data for all substations with the exception of Point Moretti, which is a May 2021 snapshot.

Table 2: Potential Load Reduction (MW) of Eligible BIP and SmartAC Customers				
	BIP	BIP	SmartAC	
Substation	Agricultural	Commercial / Industrial	Residential	Grand Total
BRUNSWICK	0	1.235	0.714	1.949
CLEAR LAKE			N/A	
CLOVERDALE	0		0.360	
HARTLEY			N/A	
HOOPA	0	0	N/A	0
KONOCTI			N/A	
LOW GAP	0	0	N/A	0
PLAINFIELD	3.333		1.470	
POINT MORETTI		0	N/A	
WILLOW CREEK			N/A	
<b>Grand Total</b>	<b>3.661</b>	<b>4.799</b>	<b>2.544</b>	<b>11.004</b>

\* BIP potential load reduction is based on the Average Summer Demand from the actual customers.

\*\* \* SmartAC data only represents areas that will or have already converted from one way to two way Smart AC devices. Smart AC potential load reduction is based on the estimated average Ex Ante Load Impact kW/Customer by Sub-LAP filing on April 1, 2021 (R.13-09-011) under 1-in-2 weather conditions, assuming that an event would occur at 4 - 9 pm on the PG&E system peak day of the month. Residential Smart AC potential load reduction includes all applicable residential customer excluding medical baseline/life support customers and those not enrolled in another program (e.g., Smart Rate, Capacity Bidding Program, etc.).

Table 3: Total # of Eligible BIP and SmartAC SAIDs				
	BIP	BIP	SmartAC	
Substation	Agricultural	Commercial / Industrial	Residential	Grand Total
BRUNSWICK	0	15	2,858	2,873
CLEAR LAKE			N/A	
CLOVERDALE	0		2,733	
HARTLEY			N/A	
HOOPA	0	0	N/A	0
KONOCTI			N/A	
LOW GAP	0	0	N/A	0
PLAINFIELD	43		5,251	
POINT MORETTI		0	N/A	
WILLOW CREEK			N/A	
<b>Grand Total</b>	<b>53</b>	<b>44</b>	<b>10,842</b>	<b>10,939</b>

\* Smart AC data only represents areas that will or have already converted from one way to two way Smart AC devices.

The benefits of this Clean Substation Pilot are avoided fuel costs and associated avoided GHG and criteria pollutants. The purpose of this DR Pilot/Use Case is to test the extent to which DR could help lower the amount of diesel used and associated GHG emissions and criteria pollutants. At this time, without BIP customers enrolled or a significant number of Smart AC customers in the area, it is unknown to what extent DR programs may mitigate diesel usage. After this Clean Substation Pilot/Use Case operates, PG&E will be able to calculate the amount of fuel avoided and associated benefits provided in the form of avoided GHG and avoided air emissions associated with standard diesel mobile generator equipment used.

#### D. Timeline for the DR Clean Substation Pilot Project

As the only change needed to implement this pilot is Commission authorization of the current BIP and Smart AC tariffs for the DR for PSPS use case, the use case could become effective a few weeks after approval of this Advice Letter.

PG&E recommends against trying to establish a new DR program or to establish a new incentive structure within BIP for this use case for 2021 given the delay it would entail related to creating a new program structure, a multiple month recruitment timeline, updated configuration of communications to customers, and billing system upgrades.

For these reasons, PG&E would like to use existing DR programs to lower the amount of temporary generation used during a PSPS event. The existing marketing budget for DR programs as authorized in the DR 2018-2022 Application should be used for marketing, as it would only serve to grow demand response in these substation locations.

#### E. Compliance with the Clean Substation Microgrid Project Criteria in D.21-01-018.

D.21-01-018, Appendix A, sets forth several criteria that apply to any type of clean substation microgrid project.<sup>24</sup> At a general level, the Decision requires that “[p]roposed projects must be judged technically feasible, safe, and financially competitive by the utility.”<sup>25</sup> PG&E has evaluated the proposed DR-based clean substation project and determined that it can be feasibly and safely implemented and that, because it would not require incremental funding beyond the existing DR authorized budget, it is a financially competitive means of transitioning to cleaner substation microgrids to mitigate PSPS outages.

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<sup>24</sup> D.21-01-018 also sets forth specific criteria that apply to clean substation microgrid projects utilized beginning in September 2022 and permanent clean substation microgrid projects, but since the proposed Demand Response pilot will be a temporary project used in 2021, these criteria are not applicable and not discussed in this Advice Letter.

<sup>25</sup> D.21-01-018, App. A, p. A-5.

Additionally, D.21-01-018 requires that clean substation microgrid projects meet the following requirements:<sup>26</sup>

a. Design should be capable of islanding for 48 hours.

The use of DR as part of the substation microgrid is not expected to impact the ability of the existing temporary generation-based system to island for at least 48 hours. Any impact of the DR pilot would be to extend the ability of the generators to island the substation by reducing generator fuel consumption and to reduce the fuel usage and associated GHG emissions.

b. Design should be able to black start the substation load.

The use of DR as part of the substation microgrid will not provide black start and is not expected to impact the ability of the existing temporary generation-based system to provide black-start at the substation. While DR program use cases cannot provide black start, any impact by the pilot would reduce black-start loading.

c. Design should meet cold load pickup requirements.

The use of DR as part of the substation microgrid is not expected to impact the ability of the existing temporary generation-based system to meet cold load pickup requirements. Any impact by the pilot would reduce these pickup requirements.

d. Design must meet frequency and frequency response requirements.

The use of DR as part of the substation microgrid is not expected to impact the ability of the existing temporary generation-based system to meet frequency requirements.

e. Design should meet protection requirements or include protection upgrades.

The use of DR as part of the substation microgrid is not expected to impact the ability of the existing temporary generation-based system to meet protection requirements or to require protection upgrades.

f. The cost of the project to ratepayers may not exceed twice the expected cost of utilizing backup diesel generation over the contract period. In total, the cost may not exceed the expected cost of 20 years of diesel rental and operation.

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<sup>26</sup> *Id.*



As there is no incremental cost, beyond the existing DR budget authorization, for this Pilot/Use case, it is not expected to exceed twice the expected cost of the diesel generation standing alone.

Additionally, Section 2.5 of Appendix A to D.21-01-018 requires that the “total cost of all [clean substation microgrid projects] over their expected useful life may not exceed \$350 million.”<sup>27</sup> As there is no incremental cost to this Use Case/Pilot, it will not exceed the \$350 million previously authorized.

#### **F. Ratemaking Requirements**

D.21-01-018 requires that PG&E submit a Tier 3 advice letter if it intends to seek cost recovery for expenses incurred to develop a clean substation microgrid project.<sup>28</sup> PG&E must also submit a Tier 1 advice letter to modify its electric preliminary statements to create a new Clean Substation Microgrid Program subaccount in its existing Microgrids Balancing Account if PG&E intends to pursue any clean substation microgrid projects.<sup>29</sup> Finally, D.21-01-018 authorized PG&E to allocate the recorded expenditures for an approved clean substation microgrid project to all distribution customers and required PG&E to seek approval for the specific method of cost allocation and recovery via rates as part of this Advice Letter.<sup>30</sup>

These requirements do not apply to the DR-based Clean Substation Pilot because PG&E does not forecast any incremental costs associated with the pilot that would need to be recorded to the Microgrids Balancing Account. Instead, existing DR budget authorization is available to recover the costs of incremental customer recruitment and monthly capacity payments for the BIP. There would be no incremental costs related to use of the SmartAC program since incentives are paid only once at the time of recruitment. PG&E will swap out some of the SmartAC one way switches in these locations for two way switches.

#### **V. Requested Findings**

PG&E requests that the Commission issue a Resolution approving this Advice Letter that contains the following findings:

1. PG&E has adequately documented its plans to establish clean substation microgrid projects located at, or able to serve, at least one substation.

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<sup>27</sup> D.21-01-018, App. A, p. A-5.

<sup>28</sup> D.21-01-018, p. 120 (OP 15).

<sup>29</sup> *Id.* (OP 16). PG&E submitted Advice Letter 6099-E on February 22, 2021, to establish the Microgrids Balancing Account. Energy Division issued a disposition letter approving the balancing account on April 5, 2021.

<sup>30</sup> *Id.*, p. 121 (OP 17).

2. PG&E has documented the specific conditions that make it infeasible, within the requirements established by D.21-01-018, to undertake a clean substation pilot project utilizing an alternative generation technology to diesel in 2021.
3. The Proposed Demand Response Clean Substation Microgrid Pilot Project is approved as a prudent and reasonable project for deployment in 2021 to start the transition towards diesel alternative substation microgrids.
4. The Proposed Demand Response Clean Substation Microgrid Pilot Project meets all requirements for a clean substation microgrid project set forth in Appendix A, Section I.2, of D.21-01-018.
5. It is reasonable to include within the definition of events that trigger the Base Interruptible Program and the SmartAC demand response programs circumstances in which all of the following are true: (1) a substation that is both intended to be, and actually is, energized during PSPS via a microgrid; (2) the distribution feeder serving a particular enrolled DR customer or set of customers is safe to energize; and (3) enrolled DR customers fall within the microgrid and safe to energize boundaries.
6. PG&E may use the marketing and outreach budget approved in Decision 18-11-029 for purpose of recruiting customers for the Demand Response Clean Substation Microgrid Pilot Project.
7. It is reasonable for PG&E to use the existing authorized funding for BIP to make incremental monthly capacity payments associated with the use of BIP for the Demand Response Clean Substation Microgrid Pilot Project.

## **VI. Confidentiality Treatment**

In support of this Advice Letter, PG&E has provided confidential information within and in the confidential appendices listed below. Pursuant to General Order 66-D and Public Utilities Code 583, PG&E requests confidential treatment for portions of this Advice Letter and the confidential appendices. A separate Declaration Seeking Confidential Treatment is being submitted concurrently with this Advice Letter.

### **Confidential Appendices**

Confidential Attachment 1: Summary of Diesel Alternative Bids and Evaluation Process, and Workpapers Underlying the Cost Analysis of Diesel Alternative Bids

**VII. Protests**

**\*\*\*Due to the COVID-19 pandemic, PG&E is currently unable to receive protests or comments to this advice letter via U.S. mail or fax. Please submit protests or comments to this advice letter to [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov) and [PGETariffs@pge.com](mailto:PGETariffs@pge.com)\*\*\***

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile, or E-mail, no later than **June 29, 2021**, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
505 Van Ness Avenue, 4<sup>th</sup> Floor  
San Francisco, California 94102

Facsimile: (415) 703-2200  
E-mail: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Sidney Bob Dietz II  
Director, Regulatory Relations  
c/o Megan Lawson  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B13U  
P.O. Box 770000  
San Francisco, California 94177

Facsimile: (415) 973-3582  
E-mail: [PGETariffs@pge.com](mailto:PGETariffs@pge.com)

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).



**VIII. Effective Date**

In order to launch the Demand Response Clean Substation Microgrid Project for use in the 2021 fire season, PG&E requests that the Commission issue a final resolution approving this advice letter by no later than **August 19, 2021**.

**IX. Notice**

In accordance with General Order 96-B, Section IV, a copy of this Advice Letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service lists **R.19-09-009, R.18-10-007 and A.17-01-012**. Address changes to the General Order 96-B service list should be directed to PG&E at email address [PGETariffs@pge.com](mailto:PGETariffs@pge.com). For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at [Process\\_Office@cpuc.ca.gov](mailto:Process_Office@cpuc.ca.gov). Send all electronic approvals to [PGETariffs@pge.com](mailto:PGETariffs@pge.com). Advice letter submittals can also be accessed electronically at: <http://www.pge.com/tariffs/>.

\_\_\_\_\_  
/S/

Sidney Bob Dietz II  
Director, Regulatory Relations

cc: Service Lists R.19-09-009, R.18-10-007 and A.17-01-012

Attachments



# ADVICE LETTER SUMMARY

## ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (U 39 E)

Utility type:

☒ ELC ☐ GAS ☐ WATER  
☐ PLC ☐ HEAT

Contact Person: Stuart Rubio

Phone #: (415) 973-4587

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: SHR8@pge.com

### EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas      WATER = Water  
PLC = Pipeline      HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 6204-E

Tier Designation: 3

Subject of AL: Evaluation of Clean Substation Pilot Project Opportunities Pursuant to D.21-01-018

Keywords (choose from CPUC listing): Compliance, Demand Side Response

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.21-01-018

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: N/A

Confidential treatment requested? ☒ Yes ☐ No

If yes, specification of confidential information: See Confidential Declaration

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information: Quinn Nakayama, 415-973-3732, QJN1@pge.com

Resolution required? ☒ Yes ☐ No

Requested effective date:

No. of tariff sheets: 0

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed<sup>1</sup>: N/A

Pending advice letters that revise the same tariff sheets: N/A

<sup>1</sup>Discuss in AL if more space is needed.

**Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:**

CPUC, Energy Division  
Attention: Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102  
Email: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Name: Sidney Bob Dietz II, c/o Megan Lawson  
Title: Director, Regulatory Relations  
Utility Name: Pacific Gas and Electric Company  
Address: 77 Beale Street, Mail Code B13U  
City: San Francisco, CA 94177  
State: California Zip: 94177  
Telephone (xxx) xxx-xxxx: (415)973-2093  
Facsimile (xxx) xxx-xxxx: (415)973-3582  
Email: [PGETariffs@pge.com](mailto:PGETariffs@pge.com)

Name:  
Title:  
Utility Name:  
Address:  
City:  
State: District of Columbia Zip:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

Clear Form

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

**DECLARATION SUPPORTING CONFIDENTIAL DESIGNATION  
ON BEHALF OF  
PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)**

1. I, Quinn Nakayama, am the Director of Integrated Grid Planning and Innovation within the Energy Policy and Procurement organization at Pacific Gas and Electric Company (“PG&E”), a California corporation. Fong Wan, the Senior Vice President of Energy Policy and Procurement at PG&E, delegated authority to me to sign this declaration. My business office is located at:

Pacific Gas and Electric Company  
77 Beale Street  
San Francisco, CA 94105

2. PG&E will produce the information identified in paragraph 3 of this Declaration to the California Public Utilities Commission (“CPUC”) or departments within or contractors retained by the CPUC in response to a CPUC audit, data request, proceeding, or other CPUC request.

Name or Docket No. of CPUC Proceeding (if applicable): R.19-09-009

3. Title and description of document(s): PG&E Advice Letter 6204-E contains confidential information regarding bids submitted into a Request for Offers and customer confidential information pursuant to the Commission’s 15/15 Rule established in D.97-10-031 and D.14-05-016. Also, the following attachment submitted in PG&E Advice Letter 6204-E contains confidential information:

- 1) Confidential Attachment 1: Summary of Diesel Alternative Bids and Evaluation Process, and Workpapers Underlying the Cost Analysis of Diesel Alternative Bids

4. These documents contain confidential information that, based on my information and belief, has not been publicly disclosed. These documents are marked as confidential, and the basis for confidential treatment and where the confidential information is located on the documents are identified on the following chart.

Check	Basis for Confidential Treatment	Where Confidential Information is located on the documents
<input checked="" type="checkbox"/>	Customer-specific data, which may include demand, loads, names, addresses, and billing data  (Protected under PUC § 8380; Civ. Code §§ 1798 <i>et seq.</i> ; Govt. Code § 6254; Public Util. Code § 8380; Decisions (D.) 14-05-016, 04-08-055, 06-12-029)	(1) Certain data fields in Table 1, 2 and 3 of PG&E Advice Letter 6204-E that summarizes number of enrolled BIP customers that are served by certain substations.
<input type="checkbox"/>	Personal information that identifies or describes an individual (including employees), which may include home address or phone number; SSN, driver's license, or passport numbers; education; financial matters; medical or employment history (not including PG&E job titles); and statements attributed to the individual  (Protected under Civ. Code §§ 1798 <i>et seq.</i> ; Govt. Code § 6254; 42 U.S.C. § 1320d-6; and General Order (G.O.) 77-M)	
<input type="checkbox"/>	Physical facility, cyber-security sensitive, or critical energy infrastructure data, including without limitation critical energy infrastructure information (CEII) as defined by the regulations of the Federal Energy Regulatory Commission at 18 C.F.R. § 388.113  (Protected under Govt. Code § 6254(k), (ab); 6 U.S.C. § 131; 6 CFR § 29.2)	
<input checked="" type="checkbox"/>	Proprietary and trade secret information or other intellectual property and protected market sensitive/competitive data	(1) Certain data fields in PG&E Advice Letter 6204-E summarizing alternative to diesel

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(Protected under Civ. Code §§3426 *et seq.*; Govt. Code §§ 6254, *et seq.*, e.g., 6254(e), 6254(k), 6254.15; Govt. Code § 6276.44; Evid. Code §1060; D.11-01-036)

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bids received in a PG&ERFP

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(2) Confidential  
Attachment 1:  
Summary of Diesel  
Alternative Bids and  
Evaluation Process,  
and Workpapers  
Underlying the Cost  
Analysis of Diesel  
Alternative Bids

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☐

Corporate financial records

(Protected under Govt. Code §§ 6254(k), 6254.15)

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☐

Third-Party information subject to non-disclosure or confidentiality agreements or obligations

(Protected under Govt. Code § 6254(k); see, e.g., CPUC D.11-01-036)

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☐

Other categories where disclosure would be against the public interest (Govt. Code § 6255(a))

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5. The importance of maintaining the confidentiality of this information outweighs any public interest in disclosure of this information. This information should be exempt from the public disclosure requirements under the Public Records Act and should be withheld from disclosure.
6. I declare under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.
7. Executed on this 8th day of June, 2021 at Orinda, California.

/s/

Quinn Nakayama  
Director – Integrated Grid Planning and Innovation  
Energy Policy and Procurement Organization  
Pacific Gas and Electric Company

## **Attachment 1**

**Summary of Diesel Alternative Bids and Evaluation  
Process, and Workpapers Underlying the Cost Analysis  
of Diesel Alternative Bids**

**(Confidential)**

**PG&E Gas and Electric  
Advice Submittal List  
General Order 96-B, Section IV**

AT&T  
Albion Power Company

Alta Power Group, LLC  
Anderson & Poole

Atlas ReFuel  
BART

Barkovich & Yap, Inc.  
California Cotton Ginners & Growers Assn  
California Energy Commission

California Hub for Energy Efficiency  
Financing

California Alternative Energy and  
Advanced Transportation Financing  
Authority  
California Public Utilities Commission  
Calpine

Cameron-Daniel, P.C.  
Casner, Steve  
Cenergy Power  
Center for Biological Diversity

Chevron Pipeline and Power  
City of Palo Alto

City of San Jose  
Clean Power Research  
Coast Economic Consulting  
Commercial Energy  
Crossborder Energy  
Crown Road Energy, LLC  
Davis Wright Tremaine LLP  
Day Carter Murphy

Dept of General Services  
Don Pickett & Associates, Inc.  
Douglass & Liddell

East Bay Community Energy Ellison  
Schneider & Harris LLP Energy  
Management Service  
Engineers and Scientists of California

GenOn Energy, Inc.  
Goodin, MacBride, Squeri, Schlotz &  
Ritchie  
Green Power Institute  
Hanna & Morton  
ICF

IGS Energy  
International Power Technology  
Intestate Gas Services, Inc.  
Kelly Group  
Ken Bohn Consulting  
Keyes & Fox LLP  
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated  
Waste Management Task Force  
MRW & Associates  
Manatt Phelps Phillips  
Marin Energy Authority  
McKenzie & Associates

Modesto Irrigation District  
NLine Energy, Inc.  
NRG Solar

Office of Ratepayer Advocates  
OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Redwood Coast Energy Authority  
Regulatory & Cogeneration Service, Inc.  
SCD Energy Solutions  
San Diego Gas & Electric Company

SPURR  
San Francisco Water Power and Sewer  
Semptra Utilities

Sierra Telephone Company, Inc.  
Southern California Edison Company  
Southern California Gas Company  
Spark Energy  
Sun Light & Power  
Sunshine Design  
Tecogen, Inc.  
TerraVerde Renewable Partners  
Tiger Natural Gas, Inc.

TransCanada  
Utility Cost Management  
Utility Power Solutions  
Water and Energy Consulting Wellhead  
Electric Company  
Western Manufactured Housing  
Communities Association (WMA)  
Yep Energy