

PUBLIC UTILITIES COMMISSION  
505 Van Ness Avenue  
San Francisco CA 94102-3298



**Pacific Gas & Electric Company**  
**ELC (Corp ID 39)**  
**Status of Advice Letter 6365E**  
**As of November 2, 2022**

Subject: Joint Utility Tier 3 Advice Letter to Request Approval of a Proposed Scope and Budget for a Vehicle-Grid Integration Emerging Markets and Technology Program Pursuant to Decision 20-12-029 Ordering Paragraph 11

Division Assigned: Energy

Date Filed: 10-13-2021

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<b>Disposition:</b>	<b>Signed</b>
<b>Effective Date:</b>	<b>10-20-2022</b>

Resolution Required: Yes

Resolution Number: E-5224

Commission Meeting Date: None

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**PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
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To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

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- Name of Filer
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Energy Division's Tariff Unit by e-mail to  
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October 13, 2021

**ADVICE 3872-E**  
**(San Diego Gas & Electric Company U 902-E)**

**ADVICE 6365-E**  
**(Pacific Gas and Electric Company ID U 39-E)**

**ADVICE 4610-E**  
**(Southern California Edison Company U 338-E)**

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA  
ENERGY DIVISION

**SUBJECT:** Joint Utility Tier 3 Advice Letter to Request Approval of a Proposed Scope and Budget for a Vehicle-Grid Integration Emerging Markets and Technology Program Pursuant to Decision 20-12-029 Ordering Paragraph 11

**I. PURPOSE**

Southern California Edison Company (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas & Electric Company (SDG&E) (hereinafter referred to as the Joint Utilities) jointly submit this Tier 3 Advice Letter pursuant to Decision (D.)20-12-029 (the Decision), Ordering Paragraph (OP) 11, to request approval of their proposal for a Vehicle-Grid Integration (VGI) Emerging Markets and Technology Program (EMT Program).<sup>1</sup>

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<sup>1</sup> In OP 11, the Decision authorizes the Joint Utilities to submit an advice letter for a VGI Emerging Technology Program. The Joint Utilities refer to this program as the VGI Emerging Markets and Technology Program (EMT Program), as the Joint Utilities believe that the program should assess both technology and markets. While the Decision does not specifically reference emerging markets as a topical area, on p. 36 the Decision allows the Joint Utilities to expand the program scope to include activities beyond the topics specifically referenced. Accordingly, the Joint Utilities believe this is sufficient to justify an expansion of the scope and name to include a reference to Emerging Markets.

In this Advice Letter (AL) the Joint Utilities propose a framework for gathering, evaluating, and prioritizing opportunities for VGI emerging markets and technologies. The framework described in this AL will allow the Joint Utilities to solicit technology and study concepts from internal and external stakeholders, prioritize these potential concepts, and conduct scaled field placements to test VGI emerging technologies. The goal is to provide opportunities to conduct research of customer needs, test emerging technologies, and disseminate the information needed to bring these technologies to market.

Each utility will use this common framework for evaluating EMT Program submissions. This selection process is described in Section III.a. The Joint Utilities propose to each individually manage their own EMT projects, or work together if they so choose, using funds authorized by the Resolution of this AL. Individual utility funding requests are described in Section III.c.

## **II. BACKGROUND**

On December 21, 2020, the California Public Utilities Commission (the Commission or CPUC) issued the Decision, which sets forth various strategies for furthering the deployment of VGI. The Decision finds that a utility emerging technology program is necessary to support the development of nascent VGI use cases and suggests a maximum budget of \$10 million over two years. Accordingly, the Decision directs the Joint Utilities to jointly submit a Tier 3 AL within 150 days of the effective date of the Decision requesting approval of a proposed scope and budget of the EMT Program. The EMT Program is directed to focus on VGI emerging technologies that have not yet been demonstrated in real-world deployments or where specific research is needed before wider deployment.<sup>2</sup> The Joint Utilities are directed to seek input from stakeholders including the California Energy Commission (CEC) and other state agencies, other load serving entities, and other external stakeholders as they develop the EMT Program's scope and structure.<sup>3</sup>

On April 23, 2021, the Joint Utilities requested an extension of 150 days to the deadline for filing the Tier 3 AL proposing the EMT Program. This extension request was approved by the Commission Energy Division on May 6, 2021.

Pursuant to the Decision, the Joint Utilities first circulated a proposal for the EMT Program to numerous stakeholders including state agencies, load serving entities, and other stakeholders via email on April 30, 2021. The Joint Utilities received numerous suggestions from stakeholders, which are described later in this AL.

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<sup>2</sup> Decision, p.19.

<sup>3</sup> Decision, OP 11, p. 82.

The Joint Utilities incorporated this feedback into a revised EMT Program proposal and continued to consult with stakeholders, including meetings with CEC staff, the United States Department of Energy, Community Choice Aggregators, and numerous vehicle manufacturers and non-governmental organizations. The Joint Utilities held a public meeting to discuss the EMT Program proposal and solicit feedback on August 10, 2021. This meeting was attended by numerous stakeholders including state agencies, vehicle manufacturers, load serving entities, vendors, and electric vehicle (EV) service providers, and non-governmental organizations. The Joint Utilities solicited survey responses on the design of the EMT Program and received responses from over fifty organizations. The Joint Utilities incorporated this feedback into the design of the EMT Program described herein.

### **III. SUMMARY OF THE EMT PROGRAM PROPOSAL**

The Joint Utilities request Commission authorization of a VGI EMT Program with a combined budget of \$10 million over an initial two-year period (\$5 million per year). The EMT Program is an activity evaluation framework that the Joint Utilities will utilize to assess pre-commercial technologies that would advance VGI, support the Commission's VGI strategy, and to gain knowledge of technologies, markets, and other areas in order to enable the development of customer programs to accelerate VGI.

#### **a. Scope**

The *Final Report of the California Joint Agencies Vehicle-Grid Integration Working Group* (VGIWG) published on June 30, 2020, identified the creation of a "mechanism which allows for quick approval of demonstrations for technology and for determining market interest" as one of its medium-term policy recommendations.<sup>4</sup> Additionally, the final VGIWG report indicated that the "[w]orking group faced limitations in fully assessing barriers to VGI, including customer interest and acceptance, as well as the costs of eliciting participation in VGI programs, such as marketing and dealership education."<sup>5</sup> The utilities hold a unique position to support technology innovation and commercialization by bringing together diverse customers and market actors who generally do not share technology and information with one another. Based on the successful Demand Response (DR) Emerging Technology (DRET) Program, the VGI EMT Program will leverage a standardized process that can ingest, review, normalize, prioritize, and demonstrate promising VGI technologies or business model ideas.

Submissions to the process will address barriers and gaps in the data, which are described in further detail under the "Barriers Addressed" sub-headings within Section IV: Detailed Scope for Project Submission. Submissions may come from any party including agencies, individuals,

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<sup>4</sup> [Final Report of the California Joint Agencies Vehicle-Grid Integration Working Group](#), Table 13, Item 7.13, p.48.

<sup>5</sup> *Id.*, p. 6.

industry stakeholders, or utility staff. The Joint Utilities have identified three categories of focus for submissions: (1) Technology and Standards Assessments; (2) Market Assessments, Analyses and Behavioral Studies; and (3) Technology Introduction and Scaled Field Placements.

### **b. Objectives**

The Decision directs the Joint Utilities to implement a program to “help facilitate the development of pre-commercial technologies and/or evaluate their potential for future application in large electrical corporation programs.”<sup>6</sup> Accordingly, the Joint Utilities are proposing a standard process that will allow project submissions to move quickly through an evaluation framework. By prioritizing projects with the greatest market value, the EMT Program can lower risk of failure while also delivering the data necessary for broad deployment of VGI. Successful projects will address gaps in data (e.g., cost effectiveness, customer acceptance, etc.) that hinder market development and help test or demonstrate new products, services, policies, and markets.

Projects funded by the EMT Program must support at least one of the following objectives:

1. Accelerate the development and deployment of VGI products or data;
2. Address unfunded barriers or gaps that currently exist in the VGI market;
3. Evaluate the viability of pre-commercial technologies and their potential for future, cost-effective deployment in customer programs;
4. Enable and expand access to VGI for disadvantaged and/or low-income communities and/or low-income individuals; or,
5. Complement existing customer program(s) to minimize costs and contribute to scaling potential.

### **c. Funding Request**

Pursuant to the Decision, the Joint Utilities request \$10 million over two years for the proposed VGI EMT Program. Based on an assessment of SCE’s current DRET Program which managed over \$13 million from the 2017 to 2019 cycles<sup>7</sup> and the 2005 Emerging Technologies Whitepaper written by Commissioner Rosenfeld, which suggested a statewide budget of \$12-\$18 million ramping up to \$25 million,<sup>8,9</sup> the Joint Utilities believe the \$10 million funding

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<sup>6</sup> Decision, pp. 34-35.

<sup>7</sup> SCE’s Demand Response Emerging Markets and Technology: Investment Overview 2017-2019 [https://www.dret-ca.com/wp-content/uploads/2020/07/SCE-EMT-2019-Evaluation\\_ExecSumm\\_2020-02-21.pdf](https://www.dret-ca.com/wp-content/uploads/2020/07/SCE-EMT-2019-Evaluation_ExecSumm_2020-02-21.pdf) p. ES-5.

<sup>8</sup> Rosenfeld et al. Emerging Technologies Whitepaper, February 2005 <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.74.4605&rep=rep1&type=pdf> p. 8.

<sup>9</sup> In 2009 D.09-09-047 approved \$56 million for 2010-2012 statewide energy efficiency ETP program funding.

request is reasonable for an initial EMT Program. The final spending of this authorized amount will depend on the EMT Program submissions and eventual project approvals. This proposed budget will be distributed among the Joint Utilities proportional to utility load served and represented in Table 1.

**TABLE 1**

<b>Utility</b>	<b>% of Total Request</b>	<b>Request</b>
PG&E	45%	\$4.5M
SCE	43%	\$4.3M
SDG&E	12%	\$1.2M
<b>Total</b>	<b>100%</b>	<b>\$10M</b>

Funding authorized for each utility will be used to conduct and administer the EMT Program. Specific spending will depend on individual projects selected with a maximum 10 percent of program budget allocated to program administration.

The Joint Utilities request that the Commission, in the Resolution approving this AL, authorize each utility to establish a memorandum account to record all EMT Program costs, specific to each utility. Each utility would then seek recovery of their respective recorded costs within their Energy Resource Recovery Account (ERRA) Review, General Rate Case, or other applicable cost recovery application. The EMT program will encourage, but not require, customers to seek/provide co-funding to help off-set costs for proposed project submissions.

#### **IV. DETAILED SCOPE FOR PROJECT SUBMISSIONS**

To be considered for the EMT Program, project submissions must fall into one of three categories. The three categories emphasize the need for enhancing market intelligence, engaging with stakeholders throughout the process, and accelerating cost-effective and beneficial adoption of VGI<sup>10</sup> solutions. Additionally, the categories address the breadth of barriers that currently exist in the market and the types of projects needed to accelerate VGI. The three categories are: (1) Technology and Standards Assessments, (2) Market

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<sup>10</sup> See Decision, p. 12. VGI is defined as “any method of altering the time, charging level, or location at which grid-connected light-duty electric vehicles, medium-duty electric vehicles, heavy-duty electric vehicles, off-road electric vehicles, or off-road electric equipment charge or discharge, in a manner that optimizes plug-in electric vehicle or equipment interaction with the electrical grid and provides net benefits to ratepayers by doing any of the following: (A) Increasing electrical grid asset utilization and operational flexibility. (B) Avoiding otherwise necessary distribution infrastructure upgrades and supporting resiliency. (C) Integrating renewable energy resources. (D) Reducing the cost of electricity supply. (E) Offering reliability services consistent with the resource adequacy requirements established by Section 380 or the Independent System Operator tariff.”

Assessments, Analyses and Behavioral Studies, and (3) Technology Introduction and Scaled Field Placements.

Broad guidelines were established for each category to help organize submissions and explain the EMT Program scope. Rather than establish a target number of approved project submissions for each category, projects submitted to the EMT program will be evaluated on a case-by-case basis and selected based upon their ability to help meet the EMT program objectives.

Each category is described below, along with the anticipated outcomes, barriers addressed, and a few hypothetical example ideas, not intended to be a comprehensive list. Applicants are encouraged to seek/obtain co-funding, ask for matching funding from the Energy Efficiency (EE) or DR EMT Programs, or secure additional funding from other agencies.<sup>11</sup> This program will allow applicants to obtain multiple sources of funding to support a single submission.<sup>12</sup> However, the EMT Program will not accept submissions that propose to duplicate results from other projects that are already in the market, without providing any additional value. Submissions may be similar and complement other efforts but must demonstrate that they are adding value. All submissions should consider, but are not required to include, ways to best support access to VGI in disadvantaged and underserved communities.

#### **a. Technology and Standards Assessments**

Overview: The Draft Transportation Electrification Framework (Draft TEF) concludes that “IOU (investor owned utility) TE programs will also need emerging technologies to help overcome a range of technology barriers and support the State’s ambitious TE goals.”<sup>13</sup> The Decision finds that the Draft TEF’s proposal to authorize laboratory testing and the development of testing standards, among other things, would “help facilitate the development of pre-commercial technologies and/or evaluate their potential for future application in large electrical corporation programs.”<sup>14</sup> Project submissions in this category are expected to conduct laboratory testing of new technology or existing technology under novel use cases, to evaluate performance claims of VGI hardware, software and standards (including non-physical communication protocols), assess the ability to integrate with utility systems, and provide consultation to developers/stakeholders in the development stage.<sup>15</sup> Projects in this category will not be developing standards or certifying standards. Close coordination with agencies will prevent duplication.

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<sup>11</sup> The EMT Program encourages co-funding to help offset costs but will not allow submissions to request / obtain duplicative funding.

<sup>12</sup> The EMT Program will require applicants to disclose the amount of co-funding received to validate that the program does not pay more than the total amount needed for the project.

<sup>13</sup> Draft TEF, p. 95.

<sup>14</sup> Decision, pp. 34-35.

<sup>15</sup> Decision p. 36.

Anticipated Outcomes: Laboratory testing results, performance evaluation reports, initial cost/benefit estimates, appraisal of alignment with existing electrical corporation standards and requirements.

Barriers Addressed: Projects submitted within this category are expected to address a variety of barriers. For example, new communication and charging technologies as well as new load management strategies need to be evaluated to see if they can increase VGI participation while meeting other goals (e.g., cybersecurity, better value proposition, etc.). Assessment of standards can ensure that key functionality is included (e.g. cybersecurity, grid signals, integration with utility systems) and/or help prevent vendor lock-in, equipment obsolescence and licensing fees.

Hypothetical Example Ideas: Ideas for potential submissions include, but are not limited to projects that: (1) evaluate different communication technologies and devices for VGI, (2) assess load control capabilities of new connector standards (e.g. very high power connectors), (3) investigate potential of emerging open source and technology agnostic charging and payment procedures,<sup>16</sup> computer chips with greater bandwidth and/or VGI communication protocols, or (4) evaluate technology alignment with utility and industry cybersecurity standards.

## **b. Market Assessments, Analyses and Behavioral Studies**

Overview: As part of the EMT Program scope, the Decision directed the Joint Utilities to consider “research on customer needs and specifications that might help new products reach the market and testing facilities for potential new products.”<sup>17</sup> Additionally, survey results from stakeholders<sup>18</sup> ranked this category highly and additional comments reinforced the importance and need for this area of research. The Market Assessments, Analyses and Behavioral Studies category covers qualitative and quantitative research papers,<sup>19</sup> working groups, surveys and focus groups to understand VGI markets, customer needs, and market barriers.

Anticipated Outcomes: Reports, white papers, and data covering cost-benefit estimates, participation evaluation, market viability assessments, marketing solutions, customer

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<sup>16</sup> For financial settlement of VGI related payments to consumers.

<sup>17</sup> Decision pp. 35-36.

<sup>18</sup> On August 10, SCE on behalf of SDG&E and PG&E hosted a meeting to discuss draft proposals for VGI Interim Studies and TE / VGI Emerging Technology Program. Stakeholders were encouraged to submit responses to a survey. Feedback was accepted through August 16. See Appendix A for a copy of the survey results.

<sup>19</sup> Decision p. 34 identifies “paper studies” as a potential activity under emerging technologies that would help facilitate the development of pre-commercial technologies and/or evaluate their potential for future application

barriers, energy and demand savings, and analyses of TE grid impacts that could be used to inform future technology testing, standards assessment and field placements.

Barriers Addressed: Projects submitted within this category may explore and address barriers, such as: understanding the needs of customers (including those in disadvantaged and underserved communities), technology providers, regulators, and grid operators to help to minimize costs and maximize success rates by only testing the most promising technologies and interventions.

Hypothetical Example Ideas: Ideas for potential submissions include, but are not limited to projects that: (1) create a VGI Data Experts Working Group to conduct VGI / DER net value and cost-effectiveness analyses, (2) conduct surveys on price elasticity for incentive amounts from different VGI types, or (3) review existing VGI programs to identify knowledge gaps and barriers to additional participation.

### **c. Technology Introduction and Scaled Field Placements**

Overview: The Decision,<sup>20</sup> the Draft TEF, the VGI staff paper,<sup>21</sup> the VGI Working Group<sup>22</sup> and survey results from stakeholders<sup>23</sup> identified the need for field deployment of technology as essential to market advancement and to help address knowledge gaps. The Technology Introduction and Scaled Field Placements will expose technologies to various stakeholders at customer sites as a key step toward gaining market understanding and traction in real-world applications. Gaining knowledge about technologies, markets and related areas is key to enabling the development of customer programs to accelerate VGI. The evaluation process of submissions described later in this AL will minimize failure rates of projects and, through the review process, the Joint Utilities and stakeholders will be able to ensure that the EMT Program does not delay the implementation of VGI strategies that are ready for scaled deployment or inclusion in customer programs now.

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<sup>20</sup> Decision p. 36 indicates that the utility programs may consider topics such as: testing technologies to understand market readiness, addressing knowledge gaps such as costs and benefits and providing research on customer needs as examples that require engaging customers.

<sup>21</sup> Decision p. 14 highlights a VGI staff paper reference to several objectives that will increase VGI. Three of the objectives relate to this topic category including 1) Market signals to create market demand, 2) Demonstrate early-stage technology development and evaluate data to show market readiness, and 3) Overcome capital costs, infrastructure, information, and other barriers to scaling VGI services.

<sup>22</sup> Decision pp. 13-14 mentions two strategies proposed in the VGIWG Final Report: VGIWG quotes. 4: Understand and transform VGI markets by funding and launching data programs, studies, and task forces; and 7: Fund and launch demonstrations and other activities to accelerate and validate commercialization.

<sup>23</sup> On August 10, Joint Utility meeting to discuss draft proposals for VGI Interim Studies and the EMT Program. See Appendix A for results.

**Anticipated Outcomes:** Data and results from technology introduction and field placements will define customer baseline load measurements, cost-benefit data, marketing requirements, real-world testing results for technical functions, and real-world customer acceptance. Results will improve chances of future customer program success. All submissions in this category will need to consider potential benefits and impacts on disadvantaged and underserved communities. Submissions are not required, but are strongly encouraged, to include field placements within these areas.

**Barriers Addressed:** Projects submitted within this category may explore and address barriers, such as considering if scaled field placements are necessary to discover costs and understand how market players will participate in real-world settings. Proving out projects in real-world deployments will help address the current gaps that exist in technology, market or program knowledge, readiness, and performance.

**Hypothetical Example Ideas:** Ideas for potential submissions include, but are not limited to projects that: (1) determine response rates for different communication tools (e.g., charger-based, vehicle-based) for different VGI types (V1G, V2G, V2B, etc.) for different vehicle segments (medium-duty and heavy-duty, ride-hailing, light-duty, etc.), (2) develop rate strategies for different market segments (e.g., public charging plazas for trucks), (3) assess V2G for high-speed AC charging in different classes of vehicles, or (4) evaluate battery state-of-charge communication tools.

## **V. DETAILED SELECTION PROCESS**

### **a. Introduction:**

“This decision finds that pursuit of VGI pilots, demonstrations, emerging technologies, and studies is a reasonable VGI strategy and should be adopted as a non-SB 676 VGI strategy. While these activities will support the development of cost-effective and feasible technology, they may not provide immediately quantifiable cost-effective benefits. The pursuit of these activities will advance VGI, as defined by this decision, by ensuring that proven VGI technologies can be scaled and by expanding the technology required to advance VGI.”<sup>24</sup> Based on this, the submissions to a utility EMT Program do not need to be cost-effective. However, as a submission moves through the stages / gates described herein, more detailed information on costs and benefits, market potential and other criteria as discussed below will be needed to further assess the submission.

### **b. Overview:**

The EMT Program will solicit internal and external proposals for projects that fall within the three topic categories described above. The EMT Program will leverage the website and network already established through the Emerging Technologies Coordinating Council (ETCC)

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<sup>24</sup> Decision, p. 19.

for online submission of proposals, communication, and reporting. Submissions will be accepted on an on-going rolling basis and reviewed no less frequently than quarterly.

Technologies or services that have already been tested and/or demonstrated or that are ready for at-scale program deployment do not need to go through the EMT Program to be considered for inclusion in an existing or future utility program. To be considered for a inclusion in an existing/future utility program technologies and services need to meet the utility's program requirements and follow any protocols established for the program (e.g., participating in a request for proposal, etc.). Additionally, proposals for new full-scale programs can be directly proposed to each utility. However, they must be submitted for review and approval by the CPUC before the utility can implement any new program. Parties with technology or services that are ready for full market deployment are not required to go through the EMT Program. Those parties should continue to work with other utility program staff for potential inclusion in existing utility programs and will have to comply with all requirements.

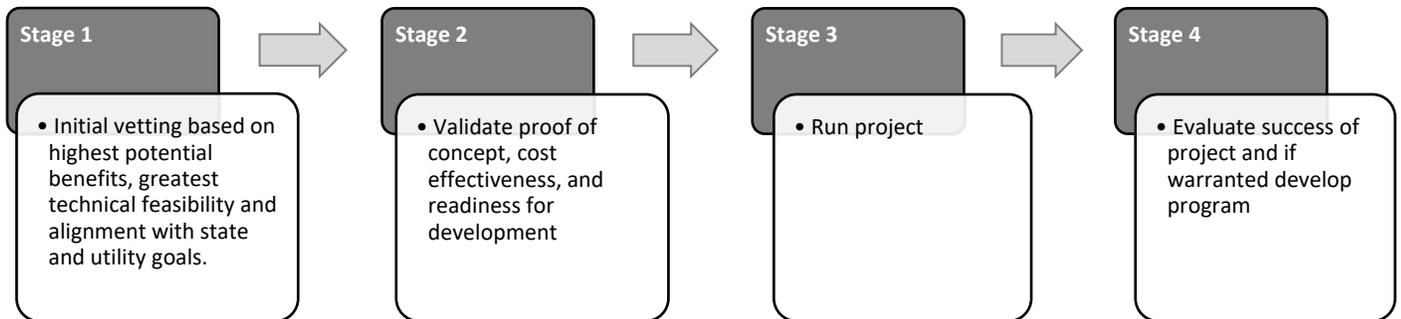
The Joint Utilities anticipate receiving more submissions than can be trialed as EMT projects. Consequently, the Joint Utilities will deploy a stage-gate process<sup>25</sup> to evaluate and, eventually, select only the most promising projects. To avoid duplication of efforts, projects may be run independently by a single utility or jointly by multiple utilities depending on the nature of the projects, target customer segments, expected results and funding.

Figure 1 depicts the stage-gate process that the EMT program will utilize. It is not mandatory for proposals for full-scale customer programs to go through this process. Submissions that have adequately demonstrated that the technology, use-case or application has already gone through the equivalent of the first few stage gates, will more quickly pass through the stage-gate process. The submitters will have the opportunity through forums or direct correspondence with the Joint Utilities to refine submissions and respond to questions/requests to fill gaps in submissions through the gating process. The Joint Utilities propose that any projects that are approved for the EMT program funding (end of stage 2) through this process will immediately be approved for implementation and will receive a budget allocation, as appropriate.

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<sup>25</sup> Based on product development process at <https://www.designorate.com/stage-gate-new-product-development-process/>

Figure 1: Illustration of Stage-gate Process



### c. Descriptions of Each Gate

#### **Stage 1. Submission and Initial Review.**

An applicant will submit a detailed project proposal, within one of the three topic categories described above, online through the ETCC web portal. The Joint Utilities will evaluate all submissions on a quarterly basis to determine how each meets the goals described in the summary above and evaluate the responses to the questions detailed in Appendix B which are based on the strategies in Senate Bill 676 and the Decision. Through this initial discussion, each utility may also incorporate needs that are specific to its service territory.<sup>26</sup>

The Joint Utilities (or an assigned individual utility) will consult with internal experts who have expertise in many different areas. The Joint Utilities will assign an internal expert champion (or external expert) for each proposal in this stage to further vet the submission and iterate on the concept with the submitter, if needed. A rigorous examination of the claims in the submitter's form will take place especially around costs, benefits, feasibility, scalability, focus on disadvantaged and underserved communities, and mass market potential. Any qualitative statements by the submitter should become quantitative, and additional evidence will likely be sought to make the proposal more complete. The review criteria for each utility may be slightly different within each of the three topic categories, to better align with each utility's needs. These differences will be reflected in the online submission form and communicated in any

<sup>26</sup> For example, grid constraints/conditions, wildfire concerns, Community Choice Aggregation participation, percentage of large apartments and condos, size of goods movement industry, percentage of disadvantaged communities / priority communities (e.g., rural and tribal areas).

communication with the submitter. On a quarterly basis, the Joint Utilities will hold an external meeting to solicit additional feedback from stakeholders on submissions before moving them forward to the next stage.

### **Stage 2. Detailed Evaluation.**

Submissions that pass the first review gate will receive a detailed evaluation and vetting by the assigned utility or utilities. This evaluation will include a detailed budget review, a cost-benefit assessment, and feasibility review appropriate for the three topic categories described above. At this stage, the utility will have a larger group of internal experts from many departments examine the submission. A more detailed budget will be developed including any websites, marketing costs, hardware, software, on-going costs, and other implementation costs. Due diligence analysis will be conducted and any required Request For Information or Request For Proposal will be initiated (e.g., to examine project schedule, co-funding, readiness for development, demonstrated market need, etc.), if necessary. Metrics for the proposed project will also be refined, if needed. Detailed verification will be conducted to determine if the submission is duplicative of existing or planned projects. Projects that pass this stage receive approval for funding for their submission.

### **Stage 3. Run Project.**

The project will be implemented during this stage.

### **Stage 4. Share Results.**

The project will be evaluated by the utility and results shared with the other utilities as well as with external stakeholders through the ETCC process (e.g., how well were the success metrics met and how ready is the project to become a customer program?). Each utility can opt to turn successful projects into a customer program or use project results (e.g., paper studies, surveys, focus groups) to inform design of new programs or help move the technology to the next stage of product development (e.g. a field trial results in a demonstration or pilot).

Additional information relating to the process (e.g., stakeholder engagement and sharing the results) is below in sections VI and VII.

## **VI. GOVERNANCE AND COMMUNICATION PROCESS TO CREATE AWARENESS AND AVOID DUPLICATION**

The EMT Program will establish a governance and communication process to create stakeholder awareness of the projects submitted, allow for stakeholder input, and provide visibility to the respective status of each project. By creating awareness and a transparent process, the Joint Utilities expect to be able to avoid the potential for duplication of projects funded by other agencies, such as the CEC's EPIC Program.

The EMT Program will be governed by the Joint Utilities, with input from stakeholders as appropriate. Input from stakeholders in disadvantaged and underserved communities will be sought for proposed projects, and particularly for projects within these communities. The Joint Utilities will meet frequently to discuss program operations and management (i.e., monthly EMT Program Management Operations meeting). A program website will provide stakeholders with monthly updates on new projects and status of pending projects.

The Joint Utilities will leverage their existing Program Advisory Council (PACs) meetings to provide stakeholders with updates and solicit feedback on the EMT Program. Additionally, the Joint Utilities will host quarterly stakeholder meetings, leveraging the ETCC,<sup>27</sup> whose current scope is to report out on EE and DR efforts statewide, to minimize duplication and disseminate results. The addition of a VGI workstream will require minimal effort and resources. Participants in the ETCC include academia, research institutions, charging service providers, automobile manufacturers, and federal and state agencies. During the quarterly meetings, the Joint Utilities will solicit feedback on recent submissions, report on the program status and provide time to dialogue with stakeholders on various components of the program.

A year following implementation of the EMT Program, and annually thereafter, the Joint Utilities will consult with the Energy Division, the CEC, Community Choice Aggregators, and other industry stakeholders to assess and make refinements, as needed, to the EMT Program scope, pursuant to OP 11 in the Decision.<sup>28</sup> The Joint Utilities may conduct separate meetings with the individual agencies, prior to discussing the potential for refinements to the program scope with the larger stakeholder community, during one of the stakeholder meeting dates.

## **VII. STAKEHOLDER FEEDBACK AND CONTINUED ENGAGEMENT**

On August 10, SCE on behalf of SDG&E and PG&E hosted a meeting to discuss draft proposals for VGI Interim Studies and the EMT Program. The meeting notice was emailed to parties on the service list for Rulemaking (R.) 18-12-006, members of the VGI working group, and other relevant stakeholders. Over 90 stakeholders<sup>29</sup> (non-IOU) attended this two-hour workshop on both the required EMT AL and the optional Interim Studies AL. During the meeting, participants were asked to complete a survey on the Joint Utilities' proposals. An

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<sup>27</sup> See: <https://www.etcc-ca.com/>

<sup>28</sup> Decision, OP 11, p. 82. "The advice letter shall also contain a proposed process to annually refine the program scope in consultation with the same entities."

<sup>29</sup> Representation included 10 automaker representatives from 6 companies, 17 charging services representatives from 13 companies, 10 state government representatives from 4 agencies, 2 representatives from universities, 8 representatives from non-governmental organizations, 14 representatives from public utilities and Community Choice Aggregators, 16 consultants and representatives from trade associations and 16 representatives that did not disclose their organization.

email reminder encouraged attendees and other stakeholders to respond to the survey by August 16, 2021. A copy of the findings from the survey is provided in Appendix A.

Additionally, the utilities conducted individual meetings with multiple stakeholders to obtain their respective input.<sup>30</sup> The Joint Utilities conducted a combined stakeholder survey asking about both the EMT AL and the possible scope of the Interim Studies AL. Respondents included 48 parties who filled out the survey and 13 parties who provided comments by email or phone. Some parties only filled out the Interim Studies portion of the survey, and that input helpful as paper studies / working groups are also within the scope of our proposed EMT Program.

The Joint Utilities addressed stakeholder comments on scope by consolidating the eight topic categories listed in the survey to avoid overlap, making the categories clearer, and adding hypothetical examples of projects that could be submitted in each topic category. Some of the interim studies ranked very well in their separate survey, but paper studies and working groups did not rank well in the emerging markets and technology portion of the survey. However, respondents were not aware that the Joint Utilities eventually selected not to submit the optional AL on Interim Studies. As a result, due to the popularity of some of the interim studies, and to avoid precluding future funding sources for studies and working groups, the Joint Utilities did not eliminate paper studies and working groups from the scope of the EMT Program. Similarly, lab testing ranked lower, but will remain as a submission category. The Joint Utilities will take into account additional stakeholder feedback as well as the recommendations submitted so far into the evaluation of project submissions in these categories.

To address comments on duplication and need for more opportunities for stakeholder participation, the Joint Utilities adjusted the ETCC events from annual to quarterly. The Joint Utilities also reiterated that anyone may propose projects to the EMT Program as well as review and provide comments on EMT submissions. The Joint Utilities clarified that multiple relevant utility staff experts from many different programs and departments will be involved in reviewing submissions and that the project submission process will be to the single ETCC where the Joint Utilities will work together on the first review. To address stakeholder comments on criteria, the Joint Utilities have proposed herein to combine the originally presented first two stages and have project submissions contain more detailed information that will be reviewed by the Joint Utilities.

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<sup>30</sup> CEC staff, CPUC staff, US Department of Energy, California Independent System Operator (CAISO), and group calls with seven vehicle manufacturers, Energy and Environmental Economics (E3), EPRI, Plug In America and Adopt A Charger, Outreach to the ESJ community: an individual call with EV Noire, and larger group calls with eV Noire, Natural Resources Defense Council, Greenlining, Coalition for Clean Air, Citizens for a Better Environment, Climate Resolve and Environment California.

The Joint Utilities propose to collaborate with community groups, CARB, CEC USDOE, electrification stakeholders and other utilities in the EMT Program. Community groups representing disadvantaged and underserved communities will be included in this collaboration. This collaboration will serve to (1) avoid duplication of activities which would dilute the effectiveness of allocated funding, (2) potentially extend or complement programs administered by other agencies where mission and/or geographical overlap would benefit from continuity, and (3) promote awareness of and access to project and program funding to potential applicants.

**VIII. PROPOSED BUDGET**

The Decision states that the proposed EMT Program “budget should not exceed \$5 million annually combined for all of the large electrical corporations for an initial period of two years.”<sup>31</sup> Accordingly, the Joint Utilities propose a combined annual budget of \$5 million per year over two years. The program will have an administrative cap of 10% of annual budgeted program funds. Any budgeted funds that are not allocated to projects in a year will be carried over for potential use in the following year. Maintaining access to the total approved funding amount will benefit the VGI market broadly by allowing greater opportunity for program ideas to be funded while still maintaining overall budget limits determined by the CPUC. Table 2 shows the annual allocation for each utility and the distribution by administrative (Admin) and non-administrative (Non-Admin) costs.

**TABLE 2**

IOU	Total Budget per IOU and Year based on kWh (45%, 43%, 12%)		Distribution of budget			
			Year 1		Year 2	
	Year 1	Year 2	Admin	Non-Admin	Admin	Non-Admin
PG&E	\$2.25M	\$2.25M	\$0.22M	\$2.05M	\$0.22M	\$2.05M
SCE	\$2.15M	\$2.15M	\$0.22M	\$1.93M	\$0.22M	\$1.93M

<sup>31</sup> Decision, pp. 36-37.

SDG&E	\$0.6M	\$0.6M	\$0.06M	\$0.54M	\$0.06M	\$0.54M
<b>Total</b>	<b>\$5.0M</b>	<b>\$5.0M</b>	<b>\$0.50M</b>	<b>\$4.52M</b>	<b>\$0.50M</b>	<b>\$4.52M</b>

During stakeholder workshops, various parties indicated a potential interest in co-funding EMT projects, but no party committed to providing co-funding to the overall EMT Program. As such, the Joint Utilities will encourage participants to seek both public and private co-funding opportunities, when appropriate, with Program like the Electric Program Investment Charge (EPIC), state or federal grant funds, private funds or other funding sources.

**IX. METRICS AND REPORTING**

Pursuant to OP 12, the Joint Utilities are required to provide semi-annual reports to the Commission on EMT Program status, results to date, budget, challenges, and lessons learned.<sup>32</sup> The first EMT Program report is due eight months after the Commission disposition of this AL.<sup>33</sup> The Decision allows the Joint Utilities to combine the EMT Program reports with other types of reporting with agreement from the Energy Division.<sup>34</sup>

The Joint Utilities propose to report on program status, results, budget, challenges, lessons learned, and alignment with the EMT Program objective(s) for each project that is implemented. Furthermore, each utility will provide data as specified in the project development process of the Program and projects implemented to the TE Governance Committee and, as requested, to the Energy Division, CEC, and relevant community and environmental advocacy stakeholders. Data will be collected and distributed in compliance with all required and personal and corporate data protection statutes.

Additionally, the Joint Utilities propose to include the following metrics in the EMT report to help assess the overarching EMT Program:

- Total number of submissions to the program;
- Timeframe from submission of proposed project to approval and implementation;
- Percent and number of ideas that passed through each gate;
- Percent and number of submissions that were implemented as projects;
- Percent and number of submissions and implemented projects in each of the 3 categories;
- Percent and number of submissions and projects by charging market segment

<sup>32</sup> Decision, OP 12, pp. 82-83.

<sup>33</sup> Id.

<sup>34</sup> Id.

- Percent and number of submissions and projects by V1G, V2G (export) and V2H/B (non-export);
- Percent and number of submissions and projects that contain elements addressing access to VGI by disadvantaged and underserved communities;
- Alignment of projects with the EMT Program objectives; and
- If EMT projects are completed prior to submission of the IOUs' TE Plans, the IOUs will describe how EMT projects informed future applications or benefited the broader VGI commercialization.

As described in the Governance and Communication section above, a year following implementation of the EMT Program, and annually thereafter, the Joint Utilities will consult with stakeholders to assess or evaluate the program and make refinements, as needed, to the EMT Program scope, pursuant to OP 11 in the Decision. Additionally, the Joint Utilities will share research, program reports and other results with stakeholders through the utility quarterly PAC meetings and the bi-annual stakeholder meetings leveraging the ETCC.

#### **X. TIER DESIGNATION**

Pursuant to OP 11 of D.20-12-029, this advice letter is submitted with a Tier 3 designation.

#### **XI. EFFECTIVE DATE**

This advice letter will become effective upon Commission Resolution.

#### **XII. NOTICE**

Anyone wishing to protest this advice letter may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice letter. Protests should be submitted to:

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

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this advice letter should also be sent by letter and transmitted via facsimile or electronically to the attention of:

**For SCE:** Shinjini C. Menon  
Managing Director, State Regulatory Operations  
Southern California Edison Company  
8631 Rush Street  
Rosemead, California 91770  
Telephone: (626) 302-3377  
Facsimile: (626) 302-6396  
E-mail: [AdviceTariffManager@sce.com](mailto:AdviceTariffManager@sce.com)

Tara S. Kaushik  
Managing Director, State Regulatory Affairs  
c/o Karyn Gansecki  
Southern California Edison Company  
601 Van Ness Avenue, Suite 2030  
San Francisco, California 94102  
Facsimile: (415) 929-5544  
E-mail: [Karyn.Gansecki@sce.com](mailto:Karyn.Gansecki@sce.com)

**For PG&E:** Sidney Bob Dietz II  
Director, Regulatory Relations  
c/o Megan Lawson  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B1 3U  
P.O. Box 770000  
San Francisco, California 94177  
Facsimile: (415) 973-3582  
E-mail: [PGETariffs@pge.com](mailto:PGETariffs@pge.com)

**For SDG&E:** Greg Anderson  
Regulatory Tariff Manager  
8330 Century Park Court, CP31F  
San Diego, CA 92123-1548  
San Diego Gas & Electric Company  
E-mail: [GAnderson@sdge.com](mailto:GAnderson@sdge.com)  
[SDGETariffs@sdge.com](mailto:SDGETariffs@sdge.com)

There are no restrictions on who may submit a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this advice letter to the interested parties shown on the attached GO 96-B, R.18-12-006, and R.19-10-005 et al

service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to [AdviceTariffManager@sce.com](mailto:AdviceTariffManager@sce.com) or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at [Process\\_Office@cpuc.ca.gov](mailto:Process_Office@cpuc.ca.gov).

Further, in accordance with Public Utilities Code Section 491, notice to the public is hereby given by submitting and keeping the advice letter at SCE's corporate headquarters. To view other SCE advice letters submitted to the Commission, log on to SCE's web site at <https://www.sce.com/wps/portal/home/regulatory/advice-letters>.

For questions, please contact Melodee Black at (626) 302-4728 or by electronic mail at [Melodee.Black@sce.com](mailto:Melodee.Black@sce.com).

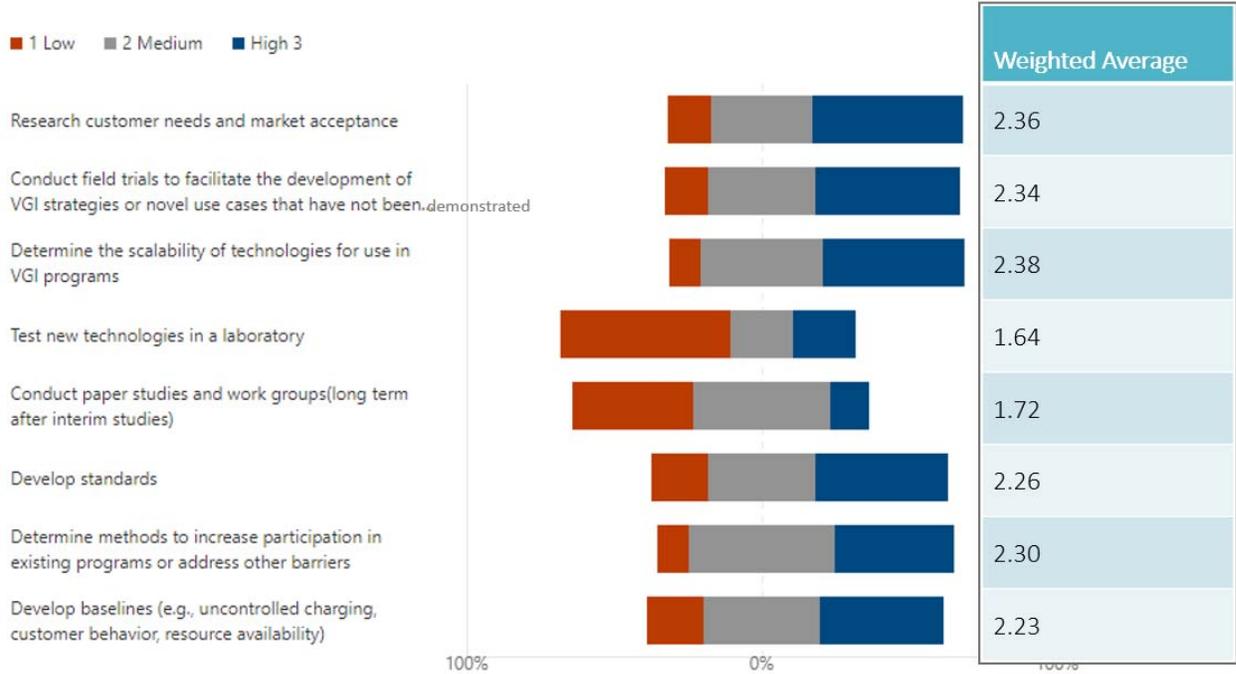
**Southern California Edison Company**

/s/ Shinjini C. Menon  
Shinjini C. Menon

SCM:mb:jm  
Enclosures

## APPENDIX A

### Stakeholder Feedback – EM&T Activities



## APPENDIX B

The following list of questions are expected to either be contained in the initial online application form or used by the Joint Utilities throughout the review process to understand project details and scope, evaluate submission's efficacy, and determine its value proposition.

### Submission Details

- Contact information
- Describe the project (product stage, functionality, expected commercial viability timeline)
- Describe the desired outcome of the project.
- Who is the target customer market?
- What is the target application area?
- What service area are you targeting?
- What stage is the technology and how will it be integrated to provide VGI services (and which services)?
- Will there be co-funding?

### Project Efficacy

- What certifications has your technology already received?
- Has your technology or service already been piloted or tested? Where? How?
- What would it take to scale the submission into a commercial program?
- What are the quantifying metrics to measure success of the submission?
- How is the submission feasible?
- Can the hypotheses in the proposal be tested and how does the submission lead to tangible outcomes?
- How does the project not duplicate existing or about-to-launch projects?
- How does the proposal prevent stranded assets (not foreclose future VGI)?

### Project Value

- How does the submission accelerate VGI. For example, is this a new VGI strategy, technology and/or use case?
- How does the submission meet state goals, state regulations and utility strategies?
- How does the submission meet the EMT Program goals? (see summary above)
- What are the estimated costs and benefits (i.e., how does it lead to a cost-effective VGI program? For example, how does it mitigate T&D&G costs from electric vehicles or increase the economic, social, and environmental benefits associated with TE.
- What is the addressable market, the marketing cost, and the stackable benefits?
- How does the proposal benefit disadvantage communities or low-income populations or other AB 841 priority communities?



# ADVICE LETTER SUMMARY

## ENERGY UTILITY



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

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:

- ELC       GAS       WATER  
 PLC       HEAT

Contact Person: Darrah Morgan

Phone #: (626) 302-2086

E-mail: AdviceTariffManager@sce.com

E-mail Disposition Notice to: AdviceTariffManager@sce.com

### EXPLANATION OF UTILITY TYPE

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4610-E et al

Tier Designation: 3

Subject of AL:

Joint Utility Tier 3 Advice Letter to Request Approval of a Proposed Scope and Budget for a Vehicle-Grid Integration Emerging Markets and Technology Program Pursuant to Decision 20-12-029 Ordering Paragraph 11

Keywords (choose from CPUC listing): Compliance

AL Type:  Monthly  Quarterly  Annual  One-Time  Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: Decision 20-12-029

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested?  Yes  No

If yes, specification of confidential information:

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:

Resolution required?  Yes  No

Requested effective date:

No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

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: None

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

Pending advice letters that revise the same tariff sheets: None

<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: Shinjini C. Menon  
Title: Managing Director, State Regulatory Operations  
Utility Name: Southern California Edison Company  
Address: 8631 Rush Street  
City: Rosemead  
State: California Zip: 91770  
Telephone (xxx) xxx-xxxx: (626) 302-3377  
Facsimile (xxx) xxx-xxxx: (626) 302-6396  
Email: [advicetariffmanager@sce.com](mailto:advicetariffmanager@sce.com)

Name: Tara S. Kaushik c/o Karyn Gansecki  
Title: Managing Director, Regulatory Relations  
Utility Name: Southern California Edison Company  
Address: 601 Van Ness Avenue, Suite 2030  
City: San Francisco  
State: California Zip: 94102  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx: (415) 929-5544  
Email: [karyn.gansecki@sce.com](mailto:karyn.gansecki@sce.com)

## ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	

**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

Intertie

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

OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

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

SPURR  
San Francisco Water Power and Sewer  
Sempra 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