

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Application of San Diego Gas & Electric
Company (U902E) for Approval of its
Electric Vehicle-Grid Integration Program

Application 14-04-014
(Filed April 11, 2014)

And Related Matter.

Rulemaking 13-11-007
(Filed November 14, 2013)

**OPENING BRIEF
OF THE OFFICE OF RATEPAYER ADVOCATES**

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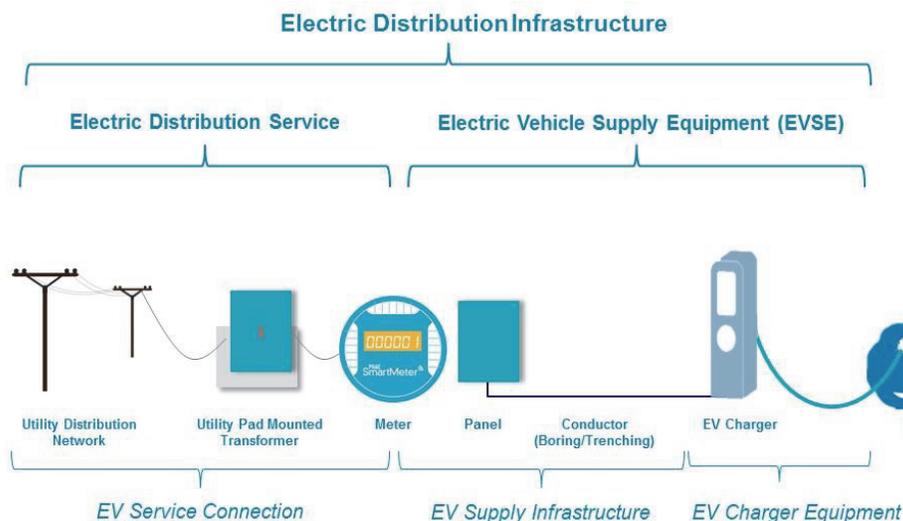
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Electric Vehicle (EV) Electric Infrastructure Definitions

- *EV Service Connection*: Includes the utility Distribution Network upgrades, and Utility Transformers upgrades and service drop.
- *EV Supply Infrastructure*: Includes meter, the breaker panel, conductor, boring and trenching on customer's premises.
- *EV Charger Equipment*: The Control electronics, keypad and communications equipment (network charging services) and the EV charger apparatus which connects directly to the Electric Vehicle.
- *Electric Vehicle Supply Equipment (EVSE)*: The National Electric Code Article 625 defines EVSE as "The conductors, including the undergrounded, grounded, and equipment grounding conductors, the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets or apparatuses installed specifically for the purpose of delivering energy from the premises' wiring to the electric vehicle." Under this definition it appears that the term will apply differently to single-family homes than the MuDs. For a single-family home, the EVSE is only the EV Charger Equipment which connects the EV charger to the house wiring. But because this application calls for installation of new wiring and equipment dedicated solely for charging EVs, the term EVSE is expanded to include the EV Supply Infrastructure and EV Charger Equipment.
- *Make-Ready Infrastructure*: Electrical infrastructure installed required to interconnect and provide electric service to the EV Charger Equipment, including transformers, utility service, meters, panels, interconnection equipment, including conduits and wiring. In this application, this is a combination of EV Service Connection and EV Supply Infrastructure.
- *Charging Stations*: EV Charger Equipment.

See Figure 1-1 (displayed below) from Pacific Gas and Electric Company's *Electric Vehicle Infrastructure and Education Program Application*, A.15-02-009.



Make-Ready Infrastructure = EV Service Connection + EV Supply Infrastructure

Charging Stations = EV Charger Equipment

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**OPENING BRIEF
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I. INTRODUCTION AND SUMMARY OF ARGUMENT

The Office of Ratepayer Advocates (ORA) files this opening brief in response to the *Assigned Commissioner and Administrative Law Judge’s Ruling Regarding the Procedural Schedule for Addressing the Settlement and the San Diego Gas & Electric Company (SDG&E) Application (ACR)*.

ORA recommends that the Commission adopt a variation of the Application and Settlement that:

- Proceeds in phases: Phase 1 consists of deploying make-ready infrastructure supporting 750 charging stations;
- Provides that ratepayers pay only for the make-ready infrastructure and that 3rd party Electric Vehicle Service Providers (EVSPs), site hosts or SDG&E shareholders pay for and own the charging stations;
- Requires SDG&E to provide quarterly progress reports, an Interim Report after installation of 600 charging stations, and a final report after Phase 1 to the Commission;
- Requires SDG&E, in conjunction with the Program Advisory Council, to develop performance measures to assess the effectiveness of Load Management Plans (LMPs);

- Uses the program participation payment to offset electric vehicle (EV) Charger Equipment costs if EV Charger Equipment are ratepayer funded;
- Deploys 75% of charging stations in multi-unit dwellings (MuDs) and 25% in workplaces during Phase 1; and
- Deploys 10% of make-ready infrastructure in disadvantaged communities during Phase 1 and provides 100% rebates for EV Charger Equipment in disadvantaged communities.

An EV program which incorporate these recommendations is more likely to be successful in terms of increasing EV adoption, benefitting all ratepayers, and reducing unnecessary risk of stranded investment.

II. BACKGROUND

A. Statutory Background

California Public Utilities Code (P.U. Code) Section 740.3(a)¹ directs the Commission in cooperation with other State agencies, electrical and gas corporations and the motor vehicle industry to “evaluate and implement policies to promote the development of equipment and infrastructure needed to facilitate the use of electric power and natural gas to fuel low emission vehicles.”

California P.U. Code section 740.3(c) requires that before Investor Owned Utilities (IOUs) can pass the costs of an electric vehicle program to ratepayers, the Commission must find:

- the programs are in the ratepayers’ interest; and,
- the utilities do not unfairly compete with nonutility enterprises.²

B. Application

SDG&E filed application (A.) 14-04-014 asking the Commission to approve its electric vehicle-grid integration pilot program (VGI program) and to establish a two-way balancing

¹ Statutory references are to the Public Utilities Code unless otherwise indicated.

² Section 740.3(c) provides: The commission’s policies authorizing utilities to develop equipment or infrastructure needed for electric-powered and natural gas-fueled low-emission vehicles shall ensure that the costs and expenses of those programs are not passed through to electric or gas ratepayers unless the commission finds and determines that those programs are in the ratepayers’ interest. The commission’s policies shall also ensure the utilities do not unfairly compete with nonutility enterprises.

account to recover \$103 million in program costs from SDG&E ratepayers over 22 years.³

SDG&E proposes to:

- Contract with third parties to install, operate and maintain 550 site installations with an average of 10 chargers per site totaling 5500 charging stations;
- Provide the specifications for the charging stations;
- Locate the charging stations at multiunit dwellings (MUDs) and workplaces;
- Own the charging stations; and
- Offer a VGI Rate only to its customers who drive electric vehicles.

The Application was scrutinized over six days of hearings that highlighted questions about the size of the program, the cost of the program, the anti-competitive aspects of the program, the need for utility ownership, and whether the VGI Rate is an effective method of ensuring grid stability.

C. Settlement Agreement

After the hearings, SDG&E negotiated a Settlement Agreement. Although 16 parties⁴ signed on, only one, ChargePoint, Inc., had a specific dispute with SDG&E. To address ChargePoint's concerns, the Settlement Agreement allows site hosts to choose electric vehicle supply equipment (EVSE) and related services from a list of vendors pre-qualified by SDG&E.⁵

Other modifications under the Settlement Agreement include:

- Guiding Principles;
- Offering the VGI Rate to site hosts;
- Requiring site hosts to make a participation payment;

³ Application of SDG&E for Approval of its Electric Vehicle-Grid Integration Pilot Program, A.14-04-014.

⁴ Settling Parties including the Natural Resources Defense Council (NRDC), Environmental Defense Fund (EDF), the Greenlining Institute, Coalition of California Utility Employees, ChargePoint, PlugIn America, General Motors LLC, Smart Grid Services, Siemens AG, NRG EV Services LLC, Green Power Institute (GPI), Sierra Club, American Honda Motor Co. Inc., Alliance of Automobile Manufacturers, KnGrid LLC, CalSTART, and the Center for Sustainable Energy.

⁵ Settlement Agreement Regarding SDG&E's Vehicle-Grid Integration Pilot Program Application, A.14-04-014, (Settlement Agreement) p. 4.

- Siting 10% of charging stations and associated make-ready infrastructure in disadvantaged communities;
- Establishing a VGI Program Advisory Council (PAC) to plan and implement the VGI Program; and
- SDG&E filing an interim progress report after two years to provide data on implementation and a progress assessment.⁶

The Settlement Agreement did not alter the size and cost of the program from that initially contemplated by SDG&E’s application or SDG&E’s ownership of all the chargers. Comments and replies on the Settlement Agreement were filed on July 3, 2015 and July 20, 2015, respectively. The Utility Reform Network (TURN), the Utility Consumers’ Action Network (UCAN), the Consumer Federation of California, Shell Energy N.A. (US) LP, the Joint Minority Parties, Vote Solar and ORA all opposed the Settlement Agreement. TURN, UCAN and ORA argued that the Settlement Agreement raised new issues that were not addressed in the hearings on the Application and requested hearings on the Settlement Agreement. On August 5, 2015 the Assigned Commissioner and ALJ denied the requests for a hearing because “the testimony and [evidentiary hearings] EH have already addressed many of the issues that the parties have raised about SDG&E’s underlying VGI proposal, and about the proposed settlement.”⁷ Nevertheless, the Assigned Commissioner Ruling (ACR) directed SDG&E to provide responses to a series of questions by August 21, 2015.⁸ The ACR directed the parties to file opening and reply briefs on whether the proposed settlement, SDG&E’s original proposal or a variant of those proposals should be adopted or not by September 4, 2015 and September 18, 2015, respectively.²

III. DISCUSSION

A. The Commission’s Procedure Invites Hearsay That Cannot Be the Sole Support for a Finding of a Disputed Fact.

In denying the request for a hearing on the Settlement Agreement by TURN, UCAN and ORA, the ACR stated that “the testimony and the EHs have already addressed many of the issues that the parties have raised about SDG&E’s underlying VGI proposal, and about the proposed

⁶ Settlement Agreement, p. 4-8.

⁷ ACR p. 22.

⁸ ACR p. 23.

² ACR p. 2, 24.

settlement.”¹⁰ The ACR continued: “the proposed settlement also addresses many of the issues that ORA, TURN, and UCAN have raised about the settlement, although it may not contain the specificity or details that they desire.”¹¹ But then the Commission agreed with ORA, TURN and UCAN that the proposed settlement “introduces modifications to SDG&E’s original VGI proposal that require further explanation for the Commission to have a more thorough understanding of how the proposed settlement is to be implemented.”¹² The Commission then posed a series of questions to SDG&E. As discussed below, ORA objects to this procedure because SDG&E’s responses constitute at most hearsay evidence (if not simply argument) since they have not been subject to cross-examination and thus cannot be the sole support for a finding of a disputed fact. Further, the record developed at hearings on the application may not in all respects substitute for hearings on the settlement. Denial of the parties’ right to cross examine SDG&E with respect to the settlement thus constitutes denial of due process for the non-settling parties to this proceeding.

California Evidence Code section 1200 defines hearsay evidence as “evidence of a statement that was made other than by a witness while testifying at the hearing and is offered to prove the truth of the matter stated.”

California Government Code section 11513(d) permits hearsay evidence to supplement or explain other evidence but “over timely objection shall not be sufficient in itself to support a finding unless it would be admissible over objection in civil actions.”

Rule 13.6(a) of the Commission’s Rules of Practice and Procedure provides that “although technical rules of evidence ordinarily need not be applied in hearings before the Commission, substantial rights of the parties shall be preserved.”

In *The Utility Reform Network v. Public Utilities Commission*,¹³ TURN challenged the Commission’s decision approving Pacific Gas and Electric Company’s (PG&E) Application to acquire a new gas-fired power plant because the finding of need for the plant was based on a

¹⁰ ACR p. 22.

¹¹ ACR p. 22.

¹² ACR p. 23.

¹³ *The Utility Reform Network v. Public Utilities Commission* (2014) 223 Cal. App. 4th 945.

declaration and petition from the California Independent System Operator (CAISO) that had been filed at the Federal Energy Regulatory Commission (FERC). The court noted that all parties agreed that the documents were hearsay. The court also noted that in previous decisions the Commission found that hearsay cannot be the basis for an evidentiary finding without corroboration where the truth of the out-of-court statements is at issue. “Consequently, hearsay is admissible in Commission proceedings but ‘it may not be solely relied upon to support a finding.’”¹⁴ Based on California law and Commission decisions, the court held that “uncorroborated hearsay cannot constitute substantial evidence to support an agency’s decision absent specific statutory authorization” and annulled the Commission’s decision.¹⁵

Since the Commission declined to hold hearings on the Settlement Agreement, SDG&E’s responses to the Commission’s questions are hearsay per se because they are not statements by a person testifying at the hearing, under oath, and subject to cross-examination.

B. The Commission’s Failure to Hold Hearings on the Settlement Agreement Violates Due Process

Article XII, section 2 of the California Constitution authorizes the Commission to establish its own procedures subject to statute and due process. “Any commissioner as designated by the commission may hold a hearing or investigation or issue an order subject to commission approval.”¹⁶

Section 1701.1(a) of the Public Utilities Code authorizes the Commission to determine whether a proceeding requires a hearing “consistent with due process, public policy, and statutory requirements.”

The California Supreme Court has defined due process as to the Commission’s actions as requiring “adequate notice to a party affected and an opportunity to be heard before a valid order can be made.”¹⁷

In its comments on the Settlement Agreement, ORA listed several new issues raised in the Settlement Agreement and not examined in the hearings on the Application.¹⁸ ORA

¹⁴ Id. at 961.

¹⁵ Id. at 962.

¹⁶ Cal. Constitution Article XII, § 2.

¹⁷ People v. Western Air Lines, Inc. (1954) 42 Cal. 2d 621, 632.

¹⁸ ORA’s Comments on the Proposed Settlement Agreement Relating to SDG&E’s Vehicle-Grid Integration Pilot Program Application, p. 10-12.

requested a hearing on the Settlement Agreement to consider these issues. Instead of a hearing, the Commission posed a series of questions to SDG&E regarding the Settlement Agreement. These questions do not address all the issues ORA raised in its comments on the Settlement Agreement. For example, the Commission asked no questions about (1) how SDG&E's inherent advantages as the incumbent utility affects potential electric vehicle service providers (EVSP); (2) how the VGI Rate-to-Host option impacts other EVSPs; and (3) what charges a site host may impose on EV drivers.

SDG&E filed its responses to the Commission's questions on August 21, 2015.¹⁹ Some of the responses are vague and should be subject to cross-examination. For example, the Commission's third question asks "how will SDG&E evaluate if 'complementary services' are 'necessary' to support the objectives of the program?"²⁰ SDG&E's response cites Paragraph F of the Settlement Agreement but adds no additional information.²¹ On cross-examination, a party could ask follow up questions to get more specific information about the kinds of activities, agreements, arrangements, policies or procedures that would inhibit a EV driver's or VGI Facility site host's ability to respond to the VGI rate.

Since no hearings have been scheduled, the parties have no opportunity to either pose their own questions to SDG&E's witnesses about the Settlement Agreement or to cross-examine the SDG&E witnesses on their responses to the Commission's questions. Allowing all of the parties filing opening and reply briefs in this proceeding to comment on SDG&E's responses is not a substitute for the parties cross-examining SDG&E witnesses, especially since the Commission did not ask SDG&E to respond to all of ORA's questions. Thus, the Commission's failure to hold hearings on a contested settlement is a denial of due process to the non-settling parties.

C. Neither the Original Application Nor the Settlement Agreement Benefit Ratepayers

The Legislature established the criteria by which the Commission should evaluate SDG&E's Application, the Settlement Agreement or a variation of the two: the costs must be

¹⁹ SDG&E's Response to Assigned Commissioner and Administrative Law Judge Questions (SDG&E Response).

²⁰ ACR, Attachment A.

²¹ SDG&E Response p. 7.

just and reasonable²² and the program must be in the ratepayers' interest.²³ Section 740.3(c) of the Public Utilities Code also requires that the Commission ensure that utilities do not unfairly compete with nonutility enterprises.

Further, the Public Utilities Code defines programs directly benefitting ratepayers as providing “safer, more reliable or less costly gas or electric service” *and* that provide other social benefits like reducing air pollution and greenhouse gas emissions and increased use of alternative fuels.²⁴ In other words, before the Commission finds that SDG&E’s program provides social benefits, it must first find that the program directly benefits ratepayers. The evidence adduced does not show that either the VGI program or the Settlement Agreement directly benefit ratepayers.

1. The Settlement Agreement may not provide more reliable electric service

James Avery of SDG&E testified that:

The VGI Pilot Program will test customer response to grid-integrated EV charging by implementing an hourly time-variant pricing plan that reflects the expected changes in energy prices and grid conditions throughout the day...The hourly time variant pricing will be communicated to the customer in a simple, convenient and easy to understand way, on a day-ahead basis. This time-variant pricing is designed to encourage EV drivers to meet their charging needs while simultaneously enhancing grid efficiency by adding load at times of least cost.²⁵

The Settlement Agreement may reduce the benefit of time variant pricing to customers by offering the VGI Rate-to-Host option—the VGI rate may ultimately never be seen by the driver. The Settlement Agreement requires the site host or its selected vendor to submit a load management plan to SDG&E including the incremental costs and equipment required, its prices and fees and any vehicle or EVSE communications systems to implement the plan.²⁶ But nothing in the Settlement Agreement requires the host to offer the VGI rate directly to customers.

²² Section 451 provides : “All charges demanded or received by any public utility, or by any two or more public utilities, for any product or commodity furnished or to be furnished or any service rendered or to be rendered shall be just and reasonable. Every unjust or unreasonable charge demanded or received for such product or commodity or service is unlawful.”

²³ Public Utilities Code Section 740.3 (c).

²⁴ Public Utilities Code Section 740.8.

²⁵ Direct Testimony of James Avery 10:21-22, 11:1-6.

²⁶ Settlement Agreement p. 4.

The site host may add other fees to the VGI Rate that could hide the actual hourly price from the EV driver. Under this scenario, the EV driver will not see the price signals that SDG&E touted as providing system efficiency.

2. SDG&E doesn't have to own the chargers to provide the VGI Rate to drivers

If the Commission finds that the VGI Rate benefits ratepayers, it does not follow that SDG&E must own the charging stations for EV drivers to pay the VGI rate. In her rebuttal testimony, Cynthia Fang of SDG&E emphasized that SDG&E must own the charging stations to offer the VGI Rate that would yield grid benefits:

[Electric Vehicle Service Providers] EVSPs are not subject to the same regulation by the Commission in the way that SDG&E and the other California investor-owned utilities are. Thus, there is no mechanism that would ensure that the EVSPs and/or site owners are required to provide the VGI dynamic hourly rate to the charging customers, which would likely reduce any potential grid and system benefits, as well as limit the potential benefits to charging customers.²⁷

However, the Settlement Agreement proposes to offer a VGI Rate-to-Host option that permits site hosts to pass through the VGI rate to customers if they so choose. If SDG&E did not own the charging stations, site hosts could negotiate contracts with EVSPs that permit EV drivers to see the VGI rate, either through the VGI Rate-to-Host or VGI Rate-to-Driver options. This scenario would obviate the need for SDG&E to own the charging stations. In other words, EV drivers could still benefit from the VGI Rate if SDG&E did not own the charging stations.

D. The Application and Settlement Agreement Have Not Addressed the Impact of the VGI Program on Competition in the EVSP market

The VGI Program Application and Settlement Agreement fail to address the impact of utility ownership of the charging stations on competition in the EVSP market. Ultimately, the EVSE market in the San Diego region will need to provide access to EV charging infrastructure to meet the Governor's goal to place 1.5 million EVs on California roads by 2025. If SDG&E's VGI Program reduces the ability of EVSPs to offer EV charging infrastructure and services to customers by reducing competition in the EVSE market, then meeting this goal will be impeded.

²⁷ Rebuttal Testimony of Cynthia Fang (Fang Rebuttal) 5: 4-8.

Ratepayers will then not be able to attain the scale of GHG reductions provided by a robust EVSE market.

While SDG&E states that the EVSE market will be able to enter into contracts to provide installation, maintenance, and management of EV infrastructure,²⁸ EVSPs will be relegated to a role as vendors. But if ratepayers pay for the infrastructure required to interconnect charging stations, and EVSPs and SDG&E pay for the charging stations with their own or shareholder funds, respectively, then EVSPs and SDG&E would be placed on a level playing field which would better enable a competitive EVSE market.

In Decision (D.) 14-12-079, the Commission cautiously endorsed an expanded role for utility activity in developing and supporting EV charging infrastructure. The Commission decided to evaluate utility proposals on a case-specific basis according to the balancing test applied in D.11-07-029: the benefits of utility ownership must be balanced against the competitive limitation that may result from that ownership. In D.14-12-079 the Commission stated that it will consider:

1. The nature of the proposed utility program and its elements, including whether the utility proposes to own or provide charging infrastructure, billing services, metering, or customer information and education;
2. The degree to which the market into which the utility program would enter is competitive, and in what level of concentration;
3. Potential unfair utility advantages, if any; and
4. If the potential for the utility to compete is identified, the Commission will determine if rules, conditions or regulatory protections are needed to effectively mitigate the anticompetitive impacts or unfair advantages held by the utility.²⁹

Neither the Application nor the Settlement Agreement addresses the impact on competition of ratepayer funding and utility-owned charging stations. If SDG&E screens out potential VGI Program customers due to costs associated with installing line extensions, transformers and panels, then the EVSPs will have to incur the costs of installing line extensions, transformers and panels resulting in fewer and potentially costlier sites. These sites will not have

²⁸ SDG&E VGI Program Supplemental Testimony, Barry Pulliam, ST-37.

²⁹ D.14-12-079 p. 9.

the benefit of ratepayer funding for the electric vehicle infrastructure required to install EV charging stations. Contrary to SDG&E's claim, a successful VGI Program would actually undermine rather than create opportunities for other EVSPs.³⁰

In the VGI Program, EVSPs will also partner with SDG&E to select VGI Program sites. If third-party EVSPs have already targeted prime locations for siting EVSEs due to prior marketing, education and outreach (ME&O) efforts, they may either (1) have to refocus their ME&O efforts on other locations or (2) allow SDG&E to target potential customers that have already been identified and risk losing their customer base. Either option may reduce competition.

SDG&E's entrance into California's nascent EV market could result in stifling competition. According to SDG&E, three major EVSPs participate in the San Diego EV charging market: Blink, ChargePoint, and NRG.³¹ SDG&E's proposed program under the settlement agreement would decrease Blink's market share by 22%, from 56% to 34%, ChargePoint's market by 8% and NRG eVgo's market by 5%.³² Nevertheless, the Settlement Agreement has not altered SDG&E's original proposal to install and own 5,500 charging stations at 550 sites and gain a foothold in the EVSP market—according to SDG&E's projections, they will own 38% percent of the EVSP market once the 5,500 charging stations are deployed.³³ The number of charging station sites in the program is nearly equal to twice the current number of non-single family residential installations in the SDG&E territory—charging stations have been installed at 239 sites in the SDG&E territory as of September 2014.³⁴ The 5,500 charging stations is also more than seven times the number of non-single family charging stations currently in service in the SDG&E territory—there are 701 non-single family charging stations in the SDG&E territory as of September 2014. The VGI Program would represent

³⁰ SDG&E VGI Program Supplemental Testimony, Barry Pulliam, ST-37.

³¹ SDG&E VGI Program Supplemental Testimony, Appendix 3.

³² Id.

³³ Id.

³⁴ Data downloaded from U.S. DOE AFDC Data download tools retrieved on September 20, 2014 from http://www.afdc.energy.gov/data_download. Utility territories were determined using the geographic coordinates in the U.S. DOE dataset and the CEC utility territory shape profile provided on request. AFDC dataset is biased toward commercial or other large scale EVSE deployment and does not represent access to charging at residence that did not require a major infrastructure upgrade or commercial EVSE deployment.

approximately 20% of the non-single family residential EV charging infrastructure required by 2025.³⁵

Regardless of its scope and scale, a fully ratepayer funded VGI Program would likely provide a more financially viable option for site hosts and delay non-utility contracts with third party EVSPs. If site hosts were aware of the availability of a fully funded EV charging infrastructure program this may cause site hosts to wait until they know that they will not qualify for the VGI program before entering into agreements with EVSPs for non-utility EV infrastructure programs.

Finally, neither the Application nor the Settlement Agreement address SDG&E's inherent, unfair advantages as an incumbent utility that could stifle EVSE market development. Pre-existing relationships with millions of captive customers endows SDG&E with superior name and brand recognition.³⁶ In addition, SDG&E controls the location, operation, and maintenance of the infrastructure that comprises the distribution system in its service territory that will give it access to prime charging locations.³⁷ SDG&E also will have guaranteed revenues from other electricity sales and costs recovered from general rate cases that could be leveraged to provide a competitive advantage; SDG&E could rely on resources currently funded in rates such as customer outreach, contract development, cost estimation, engineering, procurement and construction oversight, and operations and maintenance.³⁸ Based upon the potential for competitive limitation, ORA recommends that the Commission should adopt measures to evaluate if SDG&E's VGI Program satisfies the requirements of the balancing test at detailed in D.14-12-079.³⁹

IV. THE COMMISSION SHOULD ADOPT ORA'S PROPOSAL

A. The VGI Program Should be Phased and Contain Quarterly Reporting to the Commission

SDG&E's Application and Settlement Agreement both propose installing 5,550 charging stations at 550 sites (10 charging stations per site). SDG&E testified that a program of this size

³⁵ Supplemental Testimony, Barry Pulliam, ST-37.

³⁶ ORA VGI Program Testimony p. 3-1.

³⁷ Id.

³⁸ Id.

³⁹ D.14-12-079 p. 8.

and scale would result in the addition of 3,300 EVs from now through 2018.⁴⁰ The Application and Settlement Agreement still call for a full-scale roll out of EV infrastructure without first testing the premise that an increase in EV infrastructure will increase EV adoption. Without data driven analysis, ratepayers bear a greater risk that this premise is faulty. The Commission should first authorize a smaller program to test interest in the program and test how it incents EV adoption.

Therefore, SDG&E's VGI Program should be divided into two phases. A phased approach will enable the Commission to gather more data on the correlation between the availability of charging infrastructure and EV adoption. Dividing SDG&E's VGI Program into phases will help ensure that any identified program design and implementation flaws can be corrected before rolling-out a full scale program. The benefits of phasing include:⁴¹

- Testing the effectiveness of the VGI Program's underlying cost, design, and implementation assumptions before deploying a subsequent phase that is larger scale and cost;
- Providing the Commission and stakeholders with early data and findings regarding VGI Program gaps, limitations, strengths and weaknesses and utilizing this information to develop the next phase of the VGI Program;
- Providing data to justify the size of the next phase in the VGI Program;
- Identifying design and implementation modifications needed before the next phase of the VGI Program is implemented; and
- Examining the justification for funding of a large-scale EV Program.

A phased approach is warranted given the many questions raised by utility investment in EVSE infrastructure. Contrary to SDG&E's claim, ORA does not intend to halt or delay the VGI Program. ORA supports the Governor's goal to place 1.5 million EVs on California roads by 2025. However, achieving this goal could be hindered if the VGI Program fails to result in an adequate number of additional EVSE installations (i.e. an incremental number of EVSE installations beyond those provided by the EVSE market). As SDG&E claims, 550 EV charging

⁴⁰ Tr. 261: 6-10.

⁴¹ Comments Of The Office Of Ratepayer Advocates On The Phasing Of Pacific Gas And Electric Company's Electric Vehicle Infrastructure And Education Program, A.15-02-009, July 3, 2015.

stations or 5500 chargers are required “to see whether hourly variant pricing influences charging decisions with the aid of enabling technology.”⁴² Regardless of the number of EV charging sessions that are required to measure a statistically significant EV driver response to a day-ahead price, the emphasis at the outset should be to examine how the challenges of site selection will be surmounted. Resolving these issues is a high priority given SDG&E’s acknowledgement that a number of factors including EV demand, site related characteristics⁴³ and site owner willingness to sign easements⁴⁴ and VGI Program requirements (i.e., siting in disadvantaged communities, and in a variety of distribution circuits to obtain statistically significant data) will impact site selection. The Commission’s Energy Division has also recognized that additional variables including parking space access, and control of parking spaces and ability to meet resident, employee and visitor EV charging needs may affect site selection.⁴⁵ Aside from addressing how to alleviate barriers to EVSE installation, a phased approach is also justified to provide the Commission with oversight and the opportunity to provide policy guidance regarding site selection strategies to meet VGI Program and the Governor’s goals.

During Phase 1, SDG&E should be allowed to deploy make-ready infrastructure to support 750 charging stations, including a 10% carve out for disadvantaged communities. This will double the number of charging stations in SDG&E’s service territory.⁴⁶ Phase 1 should be at least 12 months long and extend until at the 750 charging stations have been deployed. This provision will allow an adequate amount of data to be collected to inform SDG&E, stakeholders, and the Commission regarding the challenges and successes related to the near-term recruitment of VGI Program customers and installation of EV charging stations.

At the completion of the installation of 600 charging stations, SDG&E should issue an Interim Report on Phase 1. Then, the Commission should schedule hearings and solicit stakeholder comments to identify VGI Program successes and elements that require modification in the implementation of Phase 2. Phase 2 could see the deployment of infrastructure to support

⁴² SDG&E VGI Program Supplemental Testimony, Appendix A-1.

⁴³ Prepared Direct Testimony of Randy Schmika, RS-7.

⁴⁴ SDG&E Response to ALJ Ruling p. 11.

⁴⁵ Plug-In Vehicle Electric Vehicle Infrastructure: Segmentation & Selection Criteria, Noel Crisostomo and Adam Langton, June 10, 2015 p. 34.

⁴⁶ There are currently around 730 non-single family charging stations currently in place in SDG&E’s service territory. (Supplemental Testimony, ST-26).

the remaining 4,750 charging stations, for a grand total of 5,500 charging stations.

Implementation of Phase 2 will depend on a Commission finding based on data and information gathered from Phase 1 that Phase 2 is merited.

B. The VGI Program Should Have More Reporting Requirements and Commission Oversight

The Settlement Agreement proposes that an interim progress report will be provided to the Commission by SDG&E two years after the initiation of the VGI Program. According to SDG&E, this report will include a load impact report that adheres to the Load Impact Protocols adopted in D.08-04-050.⁴⁷ However, given the aforementioned variables in Section A that may impact site selection, it is conceivable that EV charging stations will not be dispersed adequately among distribution circuits to yield statistically significant data regarding EV charging behavior. SDG&E states it may need to realign priorities for site selection if distribution circuit type representation needs require adjustment.⁴⁸ In addition, SDG&E will also consider readjustment of site selection strategies in order to meet its commitment to install at least 10% of EVSE in disadvantaged communities.⁴⁹ Satisfying these specific requirements could impact the total number of EVSEs that are deployed and subsequently the ability of the VGI Program to meet the Governor's EV goal. In order to resolve how these potentially competing needs will be addressed, the Commission should play a greater role and provide oversight in providing direction to SDG&E during the initial phase of the VGI Program.

Given the importance of maximizing the success of early stages of the VGI Program, ORA highly recommends that SDG&E provide quarterly progress reports to the Commission during the Phase 1 of the Program, an Interim Report upon installation of 600 charging stations, and a Phase 1 Final Report upon completion of Phase 1 (i.e. installation of 750 charging stations). ORA suggests that the Commission specify a progress report format that will permit a transparent review of VGI Program deployment barriers and successes. These reports should at a minimum detail how specific VGI Program issues were identified (i.e. through data collection and analyses), processes for prioritizing issues, and methods and timelines to resolve these

⁴⁷ SDG&E Response to Energy Division VGI Program Data Request 01.

⁴⁸ SDG&E Response to ALJ Ruling p. 14.

⁴⁹ SDG&E Response to ALJ Ruling p.12.

issues. The reports should detail how the Program Advisory Council members participated in the VGI Program decision making process with SDG&E.

Furthermore, ORA suggests that SDG&E provide an Interim Report to the Commission no less than one year after the initiation of the VGI Program and after the deployment of at least 600 chargers. The Interim Report would reflect information, data trends, and findings related to a list of performance metrics including, but not limited to, VGI marketing, education, and outreach (ME&O), site acquisition and installation efforts, EVSE deployment per market segment, EV charger utilization at the site level, load impacts, fuel savings, and GHG reductions. This report should be included in supplemental testimony for Phase 2 to be filed with the Commission. The Commission should then promptly schedule hearings to determine how to restructure or modify Phase 2 of the VGI Program.

C. Ownership and Ratepayer Funding Should Be Limited to the EV Service Connection and EV Supply Infrastructure

SDG&E's Application and Settlement Agreement both propose ownership and full ratepayer funding for the VGI Program. ORA does not support utility ownership of charging stations. Phase 1, however, may identify areas where IOU ownership of charging stations is needed to increase EV adoption. ORA recommends that ratepayer funding be limited to EV Service Connection and EV Supply Infrastructure with one exception: there should be a 100% rebate for EV Charger Equipment deployed in disadvantaged communities.

Ratepayer funding should not support the cost of the EV Charger Equipment. The Commission has another pilot, *Southern California Edison Company's Charge Ready and Market Education Programs* (A.14-10-014) where it can test the effectiveness of ratepayer funding for EV Charger Equipment, in the form of rebates, on EV charging station deployment. Therefore, by excluding rate-payer funding for charging stations from SDG&E's program, the Commission will be able to compare and contrast both programs to determine the merits of funding charging stations. The only exception to this would be in Disadvantaged Communities—ratepayer funding should include the EV Charger Equipment in this market segment.

Under this proposal, the cost of EV Charger Equipment would be the responsibility of site hosts, 3rd party EVSPs or shareholders, should SDG&E express an interest in owning charging stations. In the answers to the Commission's questions on the Settlement Agreement, SDG&E states:

utility ownership is necessary to ensure that all ratepayers, who are funding the VGI Program, are protected; and ownership with full utility responsibility for deployment, maintenance and operation increases the assurance that the assets remain used and useful over the life of the program and to realize the net benefits of the program to all ratepayers (as stated in Ex. SD-8 (Avery) JPA-4:9 - JPA-10:24). As such, since SDG&E is fully accountable to its ratepayers for these benefits, full facility ownership, end-to-end is relevant and necessary. Ownership by the regulated utility ensures that the program can repair or replace malfunctioning equipment in a timely manner regardless of the operational or financial health of the vendor or the competing capital priorities of the site host.⁵⁰

Ensuring 3rd party investments may also accomplish the same goals. Having 3rd parties invest their own funds in the program will encourage them to recoup their investments, make a profit, and ensure the program is a success. Additionally, should shareholders fund and own the charging stations, SDG&E will be accountable to its shareholders and ensure that the program succeeds.

D. Performance Requirements for the Rate-to-Host and Rate-to-Driver Should be Developed in Phase 1 of the VGI Program

The Settlement Agreement proposes that site hosts be provided with the choice to either enroll in a VGI Rate-to-Host or the VGI Rate-to-Driver option that was originally proposed in the VGI Program application. The VGI Rate-to-Host option requires that site hosts submit a load management plan that details the tactics that will be used to adhere to the Settling Parties' Guiding Principles. SDG&E will review load management plans to determine eligibility of site host enrollment in the VGI Program. Under the VGI Rate-to-Driver option, EV drivers would be given the opportunity to respond directly to a day ahead hourly price signal.

ORA supports the availability of VGI Rate-to-Host and VGI Rate-to-Driver options to VGI Program customers as proposed in the Settlement Agreement. A VGI Rate-to-Host option will enable site hosts to manage site load through load management plans that adhere to the Settling Parties' Guiding Principles. With access to a variety of demand side management tools (e.g. stand alone on-site energy storage or energy storage paired with on-site solar photovoltaics (PV), demand response, etc.) sites host could potentially enable a greater degree of EV adoption and EV charger utilization. For example, MuD and workplace site hosts can offer this option as an incentive to current or potential tenants or workers that own or lease EVs, especially for EV

⁵⁰ SDG&E Response p. 18.

drivers that may not wish to actively participate in selecting when to initiate charging sessions. Site hosts may also offer a non-VGI price signal to EV drivers that could incent EV adoption, but still assume the responsibility for site load management.

If an adequate number of VGI Program site hosts enroll in each rate option, the Commission can identify the relative ability of EV drivers versus site hosts to yield ratepayer benefits (i.e. increase EV charger utilization and retail sales and reduce GHG emissions). Obtaining this information will be useful to determine how to structure the VGI Program rate options as EV charger deployment continues.

Although the VGI Rate-to-Host option may yield ratepayer benefits, SDG&E does not plan to terminate site host participation if their Load Management Plans are ineffective.⁵¹ While ORA realizes that site hosts should be given ample time and opportunity (e.g., six months) to observe the VGI price signal and respond to it, SDG&E should identify solutions to maximize the success of the program and prevent potential failures. For example, if a particular vendor does not provide an effective or user-friendly tool to regulate EV charging, then SDG&E can request that the vendor provide instruction to the site host and EV drivers. However, if site hosts realize that they do not have the ability or resources to manage site loads, SDG&E could ask that site hosts switch to the VGI Rate-to-Driver option, if feasible.

Given the importance and varied elements of the VGI Rate-to-Driver option, ORA recommends that SDG&E utilize Phase 1 of the VGI Program to develop performance requirements that VGI Rate-to-Host participants must satisfy. These performance requirements could include maintaining a maximum frequency (e.g., site load should not exceed hosting capacity more than 2 times per month) and magnitude (e.g., site load attributed to the VGI Program should not be above 5% of hosting capacity) of site load that is above hosting capacity. This requirement could potentially avert the need for distribution system upgrades and also increase the likelihood that electricity use does not contribute to increased GHG emissions. SDG&E should also specify a grace period, after initiation of the VGI Program, for site hosts to meet the requirements of its Load Management Plan. If performance requirements are not met after the grace period has expired, SDG&E could increase the program payment to defray any additional costs. ORA believes that if VGI Rate-to-Host minimum performance requirements

⁵¹ SDG&E Response to ALJ Ruling p. 34.

are not imposed EV charging may not be conducted in concert with lower price signals. In this scenario, EV charging could induce an increase in GHG emissions.

E. Siting of Charging Stations Should Be Focused on the MuD Market Segment

SDG&E states that 50% of its customers live in multi-unit dwellings,⁵² “believes that the EV market is not developing as quickly in multi-unit dwellings vs. single family homes because of a lack of charging station facilities in the multi-unit communities,”⁵³ and proposes to deploy charging stations in workplaces and MuDs in a 50/50 ratio.⁵⁴ Furthermore, SDG&E states that there are approximately 15,500 MuD properties in San Diego and has identified around 942 “workplaces.” Roughly, MuDs outnumber workplaces 16 to 1.

ORA testified that technological improvements are likely to increase battery capacity and obviate the need for workplace charging. Due to the possibility of increased technology and increased driving range, and because studies indicate that drivers charge their vehicle at work,⁵⁵ ORA proposes 75% of charging stations be deployed in MuDs and 25% in workplaces, at least for the first Phase of the program. In this manner one could test if more workplace charging is required for EV adoption. During Phase 1, the need for workplace charging can be further evaluated and the percentages adjusted for Phase 2.

If there is insufficient interest among MuD owners to install chargers, then SDG&E can file an Advice Letter to modify the scope of the pilot. Additionally, it should file a report on why MuD site hosts were uninterested in the program and identify barriers, other than EV infrastructure deployment, that need to be overcome to enable larger EV adoption.

⁵² Vol. 1EH p. 81@11.

⁵³ UCAN Data Request UCAN-SDG&E-DR-01 SDG&E Vehicle Grid Integration Project A.14-04-014 SDG&E Response Question 25.

⁵⁴ Hearings Transcript p. 341.

⁵⁵ A May 2013 “California Plug-in Electric Vehicle Driver Survey Results” by the Clean Vehicle Rebate Project, California Center for Sustainable Energy, indicates that most PEV drivers charge their vehicles at home.

F. The Participation Payment Must Offset Some of the Costs associated with EV Infrastructure Deployment and Be Significant to Incent Site Hosts to Encourage EV Adoption Among Their Clientele

The Settlement Agreement proposes a “participation payment” of an undetermined amount. The “participation payment” is to be developed in consultation with the Program Advisory Council. In its response to the ALJ’s ruling, SDG&E states:

the Settling Parties understood that a “participation payment” should be sufficient to garner host customer commitment to the VGI Program and its objectives, yet not be so large as to pose a barrier to limit host customers from enrolling in the VGI Program.⁵⁶

SDG&E further states:

In developing the proposed participation payment, factors that will be considered include, but are not limited, to the following: customer commitment, avoiding adverse impacts to deployment, total VGI Facility cost and customer segment.⁵⁷

Based on the available information it is unclear if the “participation payment” will defray any VGI Program costs.

If the “program participation” payment will be used to offset EV infrastructure costs what will happen if site hosts no longer wish to participate in the program? Will SDG&E come into the site and “uninstall” the EV infrastructure? In this case, would the program payments which were utilized to offset EV infrastructure costs be returned to VGI site hosts or to ratepayers?

Given that EV chargers can be “uninstalled” from site host locations, should EV Charging Equipment be ratepayer funded, ORA recommends that the program payment should be used to defray EV Charging Equipment related costs. The program participation payment amount should be sufficient to defray more than a nominal portion of customer side program costs (i.e., EV Charging Equipment installation, maintenance, and network costs) and entice site hosts to encourage EV adoption among their clientele. Without this “skin in the game” there is no guarantee of an active involvement by site hosts to encourage EV adoption among the clientele to be served at each site. The program thus has the possibility of being passive and consequently the potential for these assets to be stranded.

⁵⁶ SDG&E Response to ALJ Ruling p.16.

⁵⁷ SDG&E Response to ALJ Ruling p.17.

Given that the variability in VGI Program costs will not be known until vendor procurement has been completed, quantifying a program payment that will offset a portion of VGI Program costs for equipment that must be procured including charging stations and networking equipment could be delayed. In addition, SDG&E has not determined the frequency and amount of program payments (i.e. will program payments be different and reflect a percent of total site related costs?) that site hosts will have to pay. SDG&E has delegated this task to the PAC. However, it is uncertain as to how and when determination of the program payment will occur.

G. Disadvantaged Communities Should Be Encouraged to Participate in the VGI Program

The Settlement Agreement specifies that at least 10% of VGI Facilities will be installed in “Disadvantaged Communities” as identified by Cal EPA’s Enviroscreen tool developed pursuant to SB 535. SDG&E also proposes to scale up deployment above the 10% to support accelerated EV adoption in Disadvantaged Communities. ORA supports inclusion of EV Infrastructure deployment in Disadvantage Communities. ORA has previously stated that “disadvantaged communities^{58,59} should benefit from any ratepayer funded pilot program in order to encourage EV adoption.”⁶⁰ Furthermore, “because of disadvantage communities’ potentially low EV adoption rate, and third party EVSPs’ potential reluctance to conduct business in what now may be a low-profit area”⁶¹ this is the only Market Segment ORA supports full rate-payer funding for EV Supply Infrastructure and EV Charger Equipment.

⁵⁸ According to CAL. PRC. CODE § 75005: California Code - Section 75005, "Disadvantaged community" means a community with a median household income less than 80% of the statewide average. <http://codes.lp.findlaw.com/cacode/PRC/1/d43/1/s75005>

⁵⁹ Disadvantaged communities can also be defined using the California Environmental Protection Agency’s (CalEPA’s) California Communities Environmental Health Screening Tool. “SB 535 directs CalEPA to identify disadvantaged communities for purposes of the Cap-and-Trade funding program based on geographic, socioeconomic, public health, and environmental hazard criteria. (Health and Safety Code section 37911)”.

See <http://www.calepa.ca.gov/EnvJustice/GHGInvest/Documents/SB535DesCom.pdf>

⁶⁰ ORA Prepared Testimony On The Application Of Southern California Edison Company (U 338-E) For Approval Of Its Charge Ready And Market Education Program (Phase 1), May 15, 2015. P. 2-9.

⁶¹ ORA Prepared Testimony On The Application Of Southern California Edison Company (U 338-E) For Approval Of Its Charge Ready And Market Education Program (Phase 1), May 15, 2015. P. 2-10.

V. CONCLUSION

ORA recognizes that the Commission is working to fulfill its legislative mandate to evaluate and implement policies to increase the number of electric vehicles on California's roads. Given the importance of this mandate, the Commission must do its best to ensure that the programs will actually succeed. Thus ORA recommends a careful, studied approach to developing electric vehicle infrastructure that will not only meet the mandate in a timely fashion but also benefit ratepayers and encourage a robust competitive market.

Respectfully submitted,

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