

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

Application of SAN DIEGO GAS & ELECTRIC  
COMPANY (U902E) for Approval of its Electric  
Vehicle-Grid Integration Pilot Program.

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

And Related Matter.

Rulemaking 13-11-007

**REPLY BRIEF OF SAN DIEGO GAS & ELECTRIC COMPANY (U902E)**

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**RECORD CITATION FORM**

**Citation to the record transcript:** “[witness surname, if applicable], T. [page number(s)]: [line number(s)] (date).” *E.g.*, Mutialu, T. 1086:17-21 (May 4, 2015)

**Citations to Prepared Testimony** identified as exhibits in this case shall use the exhibit numbers assigned by the ALJs. For brevity, the prefix “SDG&E” is shortened to “SD.” Cite as follows: Ex. [party abbreviation] [exhibit number] ([witness surname]) [page:line number(s) and/or footnote number]. *E.g.*, Ex. SD-4 (Schimka) 19:5-6 and n.2.

**Citation to Other Record Exhibits** identified as exhibits will use the exhibit number assigned by the ALJs. *E.g.*, “Ex. [party abbreviation] [exhibit number], [exhibit title, if referenced (date, if any)] [page number(s) if applicable]. *E.g.*, Ex. SD-17, “ChargePoint press release (May 16, 2014), p. 2.

**Citations Regarding the Settlement Agreement:** Citations to Appendices, Sections and ¶¶ are to provisions in the Settlement Agreement, unless otherwise indicated. Citations to “paragraph” are to unnumbered paragraphs in the Settlement Agreement appendices. Terms with initial capitalization, not otherwise titles or proper names, are used as defined in the Settlement Agreement. Unless otherwise indicated, acronyms used herein are as defined in the Settlement Agreement.

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**REPLY BRIEF OF SAN DIEGO GAS & ELECTRIC COMPANY (U902E)**

Pursuant to Commission Rule 13.11 and the August 5, 2015 ruling,<sup>1</sup> San Diego Gas & Electric Company (“SDG&E”) submits this reply brief.<sup>2</sup>

**I. OVERVIEW – THE OPPOSITION IN PERSPECTIVE**

The principal opponents to the Application and Settlement Agreement – ORA, TURN, and UCAN - share a premise and tactics. They oppose utility ownership of the charging interface with the electric vehicle (“EV”) Driver. Their arguments are not well founded, nor are their alternatives which would beguile by offering an unrealistic compromise. Beyond baseless assertion, they fail to explain why utility ownership is bad, and ignore that their alternatives

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<sup>1</sup> *Assigned Commissioner and Administrative Law Judge’s Ruling Regarding the Procedural Schedule for Addressing the Settlement and the SDG&E Application* (“August 5 ruling”).

<sup>2</sup> Opening briefs were submitted by SDG&E, Office of Ratepayer Advocates (“ORA”), The Utility Reform Network (“TURN”), ChargePoint, Inc. (“ChargePoint”), Utility Consumers’ Action Network (“UCAN”), Vote Solar, Federal Executive Agencies (“FEA”), Joint Minority Parties (“JMP”), Shell Energy North America (US), L.P. (“Shell”) and the Public Interest, Automakers and Labor Groups (single brief joined by Natural Resources Defense Council, Environmental Defense Fund, General Motors LLC, Coalition of California Utility Employees, Alliance of Automobile Manufacturers, Greenlining Institute, Plug In America, American Honda Motor Company, Inc., and Sierra Club) (Public Interest”). SDG&E has already addressed much of what is raised in the opening briefs in its reply to comments on the settlement (July 20, 2015) and in its August 21, 2015 response to the assigned commissioner and administrative law judge questions, so this reply does not repeat those arguments. Citations to opening briefs are as follows: “[party or parties nickname] brief at [page number(s)].”

would critically undermine the substantial value of the VGI Program<sup>3</sup> to EV Drivers, ratepayers and society as a whole.

The VGI Program would add two novel features to the benefits of additional charging infrastructure and competitive third party procurement.<sup>4</sup> First, it would provide a day-ahead hourly rate based on circuit and system conditions to incent the integration of EV charging with grid operation, including the efficient integration of renewable energy. Second, it offers robust data collection and a cost-effectiveness methodology familiar to the Commission, to evaluate the ratepayer benefits of the program and to inform state policy.

Opponents decry utility ownership, but their evidence is mere assertion that such ownership will chill third party investment in EV charging. They ignore that such ownership constitutes a small portion of the investment in EV charging infrastructure encouraged by the OIR and not found in one of the other utility applications submitted to the Commission so far.<sup>5</sup>

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<sup>3</sup> Terms with initial capitalization, not otherwise titles or proper names, are used as defined in the Settlement Agreement. Unless otherwise indicated, acronyms used herein are as defined in the Settlement Agreement. Citations to Appendices, Sections and ¶¶ are to provisions in the Settlement Agreement, unless otherwise indicated.

<sup>4</sup> These benefits are those recognized by the governor, the legislature and the OIR (R.13-11-007), and have been thoroughly discussed in testimony and briefing in this matter. *E.g.*, SDG&E brief at 3-6.

<sup>5</sup> As detailed below at IV.B., the objection – and the Commission’s focus – is on utility ownership of the electric vehicle supply equipment – “EVSE” – not the other utility investment necessary to support EV charging that some call the “make-ready.” EVSE is a defined term in the Settlement Agreement (p. 2). The Commission uses EVSE, for example, in Decision (“D.”) 11-07-029, and in D.14-12-079, and it is generally understood to reference the equipment that a customer plugs into the EV. SDG&E understands the term to reference SAE J1772, the standard for electrical connectors for EVs maintained by the Society of Automotive Engineers. This standard defines a common EV conductive charging system architecture including operational requirements and the functional and dimensional requirements for the vehicle inlet and mating connector. Ex. SD-7 (Avery) ST-2, n.2. *See*, p. iii, *supra*, for the form of citation to the record testimony and exhibits herein.

And they cannot square their position here with support of a settlement in another matter that contains a similar portion of utility investment but with fewer ratepayer protections and benefits.<sup>6</sup>

The alternatives offered – reduced size, and “phasing” (another way to get a reduced size) - strike at the heart of two crucial VGI Program benefits. First, the alternatives would nullify the value of the data collection and cost-effectiveness testing – the duration and quantity of charging units simply will not support meaningful data collection and analysis of the VGI Program’s value – especially that of the VGI Rate and the enabling charging technologies. Second, the VGI Program depends on attracting third party charging services, equipment and load management solutions. It is self-evident that a smaller program will attract less interest from those that could provide such innovative solutions, and those that do bid will have less scale over which to allocate development, manufacturing and support costs. So opponents would support ratepayer investment, but hamstring the ability to achieve the net benefits and forego the protections of utility ownership. And they ignore that the VGI Program budget (if the program deploys all anticipated facilities) will have minimal bill impacts.<sup>7</sup>

Project opponents treat their views of utility ownership as self-evident, a position that cannot be reconciled with the fact that the majority of parties, including leading charging product and service providers, automobile manufacturers, environmental groups, disadvantaged communities, labor and EV Driver advocates, agreed to the settlement. Principled opposition to utility ownership should have an articulable rationale and evidentiary basis, but opponents in this

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<sup>6</sup> SDG&E is not suggesting that the proposed settlement in Southern California Edison Company’s (“SCE”) A.14-10-014 should not be approved or is unreasonable; the point is that two of the opponents to the Settlement Agreement here are taking a position in another matter that conflicts with their position here. ORA and TURN are signatories to the SCE settlement.

<sup>7</sup> See, Ex. SD-3 (Fang) CF-20:6-CF-21:2.

case fail to offer that. Nor has any such basis been offered for reducing the program size or duration.

## **II. PHASING WOULD HAMSTRING VGI PROGRAM BENEFITS AND IS UNNECESSARY FOR THE PROTECTIONS PHASING PROPONENTS SEEK**

A consistent feature of opposition to the Application and Settlement Agreement is the alternative of a smaller, phased approach to VGI Program implementation, and this is taken up again in the opening briefs of ORA, TURN and UCAN.<sup>8</sup>

The phasing approaches appear motivated by a desire to limit ratepayer involvement and utility ownership. Put differently, they do not appear to be based on any sound evaluation of benefits attributable to phasing, and completely ignore the unique properties of SDG&E's grid-integrated proposal. Below we show why the VGI Program does not lend itself to phasing and the related interim reporting suggested by ORA, TURN and UCAN.

### **A. Measuring the impact of the VGI Rate requires at least two years of data collection**

The VGI Rate requires at least one year's worth of data collection in order for the EV Driver or site host to experience and respond to the full range in VGI pricing variability.<sup>9</sup> The

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<sup>8</sup> *E.g.*, TURN brief at 44-48 (section 6); ORA brief at 12-15 (section IV. A); UCAN brief at 6-7. TURN is not specific as to timing or quantity metrics for its phasing proposal; it suggests (Brief at 48) that data could be collected in a pilot phase "after 2/3 of the charging stations have been installed" which would then "trigger the start of the regulatory process for the second phase" where "SDG&E could submit a new application." It commends this approach as similar to that adopted in the settlement in SCE's proceeding, A.14-10-014. ORA (brief at 14-15) is more specific, would require *quarterly* reporting, and would limit phase 1 to the "make ready" to support 750 charging stations installed, or a minimum of one year. UCAN (brief at 6) would have a first phase pilot of 150 charging stations over two years, and limit utility ownership to less than half of the charging stations, with only "make-ready" provided for the rest.

<sup>9</sup> To grasp how important this is, imagine evaluating the critical peak pricing feature of the VGI Rate without data on the recent southern California heat wave over the past few weeks, or with this year's data as the only reference.



VGI Rate is designed to collect charges over a full year of service.<sup>10</sup> If implemented for less than a year (NB: all customers will not enroll on Day One), a customer would only be reacting to a subset of the intended price signals depending on which months/days/hours they were enrolled. For the data to be meaningful, it is critical that customers participating in the program receive full exposure to *e.g.*, days with high cost/low capacity hours, distribution circuit peak hours, and renewable oversupply hours. To limit customer data as proposed would not develop data suitable for a statistically valid representation of program performance that could usefully inform commission policy.

Robust results also require at least one follow-up year to measure persistence, that is, to determine if the VGI pricing responses in Year One are sustained over time. This is reinforced by the SDG&E Price and Technology Study,<sup>11</sup> which included a data collection period of approximately 3 years and showed: 1) it takes months for EV Drivers to learn the billing impact of their daily charging time decisions in response to the VGI Rate, and 2) once learned, EV Drivers can then make better informed decisions, and for some, the initial response to the price signals tends to either improve or decline (*i.e.*, that the initial behavior does not persist over time). Because of the requirement for site hosts to submit a load management plan to qualify to participate in the VGI Program,<sup>12</sup> there is no reason to believe that the Settlement Agreement's

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<sup>10</sup> See, Ex. SD-11 (Fang) CF-4:2-11, which details the importance of a small number of hours per year to the effectiveness of the VGI Rate.

<sup>11</sup> Ex. SD-2 (Schimka) RS-20:1-19 and n. 8, describes PEV Pricing and Technology study to test how EV charging time decisions respond to varying price ratios between time-of-use periods. SDG&E submitted the study in Advice Letter 2157-E, which was approved by Resolution E-4334 (August 31, 2010). The study results can be found at:

<https://www.sdge.com/sites/default/files/documents/1681437983/SDGE%20EV%20%20Pricing%20&%20Tech%20Study.pdf?nid=10666>

<sup>12</sup> Section III., ¶ B.

VGI Rate-to-Host option won't present similar responses to the VGI Rate among both site hosts and EV Drivers charging at those sites.

**B. Timeline prior to VGI Program launch is lengthy**

Since SDG&E's VGI Program requires additional steps *after* Commission approval (if approved as proposed), accumulation of a meaningful data set as described above, under the most expedited circumstances will not occur until Q4 2016 or Q1 2017 (best case). The following steps cannot start until the Commission issues its final decision. The most time-critical steps include:<sup>13</sup>

- Request for Information ("RFI") is issued to vendor community - enables SDG&E to develop the Requests for Proposals ("RFP").
- RFP is issued to vendor community - process follows to evaluate, test capabilities, and qualify vendors.
- VGI Program Advisory Council ("PAC") recruitment and formal launch - meetings commence (organizational).
- VGI Program participation payment proposal developed by the PAC (along with other program deployment guidance).
- VGI tariff advice letter is filed with the Commission - process follows through to Commission approval.
- VGI Program participation payment advice letter is filed with the Commission - process follows through to Commission approval.
- VGI Program marketing to site host prospects commences by SDG&E and third parties.
- VGI Program prospects undergo site screening, qualifying, contracting and enrollment.

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<sup>13</sup> These steps are discussed and flow-diagrammed in SDG&E's August 21, 2015 response to Assigned Commissioner and Administrative Law Judge Questions, p. 15, section H. and Attachments A-F.

- VGI Facility design, engineering and construction at enrolled VGI Program host sites commences.
- For site hosts selecting the VGI Rate to EV Driver option, an additional EV Driver enrollment process follows.
- For site hosts selecting the VGI Rate-to-Host option, the evaluation of the site host's load management plan will take place as part of the enrollment process.
- End-to-end testing of the VGI Rate and billing engines with third party vendors during and after the vendor qualifying process.
- VGI Facilities are tested and commissioned for full operational use.
- Data collection commences at commissioned VGI Facilities.

Given these characteristics, if SDG&E's application is approved at year-end 2015, the earliest point in time that the VGI Program will have two years' worth of data suitable for a statistically valid representation of program performance would be Q1 to Q2 of 2018. This is the best case scenario - assuming data is available for 50 to 100 VGI Facilities. To shorten the data collection period would increase the likelihood of either a "false positive" - indicating that the VGI Rate is effective, when in fact it is not; or a "false negative" - indicating that the VGI Rate is not effective, when in fact it is. Therefore, phasing, as described by the parties, with the short "report-in" timeframes will not provide the data necessary to meet the Settling Parties' – and the Commission's – objectives to evaluate the program.

**C. Phasing discourages robust vendor participation**

Since the VGI Program requires third-party vendors to implement the program, potential vendors will weigh investment, development and/or manufacturing costs in determining whether to bid. A phased approach will reduce the effective size and duration of the program,

concomitantly reducing the number of units over which the investment may be spread. This necessarily tends to increase the per-unit cost of any offering and makes any vendor participation less attractive, which will tend to reduce the quantity and quality of innovative charging solutions brought to the table.

**D. Phasing creates uncertainty among potential VGI customers and will chill participation**

It takes a considerable amount of effort and resources to market an energy program in general. Once the program marketing effort is launched and the demand for the VGI services responds, it would be unfair to stall the effort by creating uncertainty regarding the program's already brief timeline of four years.<sup>14</sup> Experience shows that commercial customers could take as long as 18 months to make a decision to participate in the program; the uncertainty of phasing will generate a "why bother - we'll wait until you have full program approval" response. Moreover, phasing basically reduces the RFP process to a one-time event. In contrast, the Settlement Agreement provides for an open and ongoing RFP process<sup>15</sup> - a feature that will help the third party service provider and vendor markets generate scale and learn from earlier installations and experience.

**E. Phasing hurts program scale economies**

In addition to making poor use of the marketing and promotional capital necessary to launch the program, other program investments lose value as phasing diminishes the volume of program deployment:

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<sup>14</sup> Section III., ¶ G provides that: "... third parties shall be permitted to develop and utilize their own marketing materials at their own expense, consistent with and subject to SDG&E's Co-branding Policy and approval process."

<sup>15</sup> Appendix C provides that: "... the RFI and RFP process and vendor qualification process will remain open throughout the duration of the VGI Program to allow for and encourage participation from qualified third parties over time."

- The costs and resources necessary to create and administer the billing function (unique to the VGI Program);
- The resources necessary to manage the daily production of the VGI Rate;
- The development of the VGI Facility engineering standards and guidelines, as well as operational standards for utility distribution system operators; and
- The human resources necessary to run the RFI and RFP processes.

The Settling Parties understood these attributes of program size and duration. TURN and ORA's concerns about program improvements can be achieved through the Settlement Agreement's PAC<sup>16</sup> process and interim progress report. Specifically, the Settlement Agreement provides for on-going consideration of program changes with PAC guidance (Section III., ¶ L.):

With guidance from the VGI Program Advisory Council, SDG&E will make programmatic changes as needed during the course of the VGI Program in line with the Guiding Principles noted above. The Settling Parties recognize that certain changes may require filings with the Commission for approval. Programmatic changes will be made on an on-going basis, running concurrent with the VGI Program, so as not to impact its overall progress. Data collection and program assessment criteria used to determine the need for any programmatic change are identified in SDG&E's prepared direct testimony, Ex. SDG&E-6 (Martin) p. 35 line 9 – p. 37 line 13, and will be supplemented pursuant to the Settlement Agreement as further described in Appendix B. Information will be provided to the PAC in a manner similar to SDG&E's Procurement Review Group. Data will be provided to the PAC and Commission to assess the need for programmatic changes.

This flexibility is reinforced by the Settlement Agreement's interim progress report.

Section III., ¶ P, provides that:

... two years after the VGI Program is launched SDG&E will provide an interim progress report to the Commission and serve it on all parties to A.14-04-014 and R.13-11-007. The interim progress report will include data as described in Appendix B and a description of any programmatic changes implemented by

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<sup>16</sup> The Settlement Agreement (Section III., ¶ K) provides that the Commission Energy Division is to be represented on the PAC.

SDG&E prior to the date of the report. Parties will be permitted to file comments and reply comments on the report.

Taken together, the information sharing envisioned in the PAC process and the more formal interim progress report enable the Commission and stakeholders to stay current with program developments and to recommend improvements without creating uncertainty or disruptions that would tend to drive up costs and drive down market and consumer interest. It is understood that any interested party may move at any time before the Commission for program changes, or suggest such changes in the round of comments to the interim progress report. SDG&E has presented substantial evidence that the size and duration of its program support robust testing of the VGI Rate and the program concepts, as well as providing valuable scale to encourage vendor participation, innovation and reduced costs. And the forgoing settlement provisions provide ample opportunity for stakeholders and the Commission to respond to new information or changed circumstances affecting the VGI Program.

The VGI Program is not a static initiative that ends with a “grade” of how well the program did – although SDG&E expects the Commission to have that information. Instead, this is about building flexibility into the four year program implementation to seize improvement opportunities during the program’s pendency, as well as to inform state policy. The VGI Program has such flexibility, while opponents’ phasing offers process and size reduction for its own sake, without providing sufficient program performance data necessary to inform Commission policy.

### III. THE RECORD IS LEGALLY SUFFICIENT TO SUPPORT COMMISSION APPROVAL

Certain parties suggest that the record in this proceeding is legally insufficient to support Commission approval of the Application as modified by the Settlement Agreement.<sup>17</sup> We show below how these assertions lack merit.

#### A. SDG&E's August 21 response is not hearsay.

ORA objects to the use of SDG&E's August 21 response to the questions posed in the August 5 ruling<sup>18</sup> as a basis for a Commission decision on the Settlement Agreement. ORA (brief at 4-5) suggests that SDG&E's response constitutes "uncorroborated hearsay [that] cannot constitute substantial evidence to support" a Commission decision, *citing TURN v. Cal. Public Util. Comm'n*, (2014) 223 Cal. App. 4<sup>th</sup> 945. ORA also alleges (*id.*, at 5) that not holding an evidentiary hearing with opportunity to cross-examine on the settlement denies non-settling parties due process. ORA mischaracterizes the facts and the law.

With respect to the facts, the August 21 response is not by any stretch "uncorroborated hearsay." The August 5 ruling asked specific questions with respect to application of the Settlement Agreement. SDG&E's response relied on two sources – the words of the Settlement Agreement, and record evidence in the proceeding – a proceeding that had gone through rounds of prepared testimony from SDG&E and interested parties and evidentiary hearings including cross-examination of witnesses sponsoring the prepared testimony. And recall that the Settlement Agreement states (p. 3): "The Settling Parties find reasonable, as modified,

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<sup>17</sup> In this briefing, SDG&E asks the Commission to approve the *Joint Motion to Adopt Settlement Agreement* ("joint motion") filed June 3, 2015. Unless otherwise indicated, terms with initial capitalization and acronyms are used as defined in the Settlement Agreement. If there are any perceived inconsistencies between characterizations in this brief and the Settlement Agreement, the terms and conditions set forth in the Settlement Agreement shall prevail.

<sup>18</sup> [SDG&E's]... *Response to Assigned Commissioner and Administrative Law Judge Questions* (August 21, 2015).

SDG&E's proposal for the implementation of its VGI Program<sup>19</sup> and cost recovery as described in SDG&E's Application and supporting testimony." So SDG&E's August 21 response, to the extent it is based on testimony that has been subject to cross-examination is not "uncorroborated hearsay." Nor are provisions of the Settlement Agreement such hearsay, which have been submitted pursuant to the Commission's Rules and subject to a round of comment by the parties prior to the August 5 ruling. There is nothing in administrative law or the law of evidence that prevents the Commission from relying on the words of a Settlement Agreement that includes the applicant and substantial, active parties, where the settlement has been the subject of comments such as those submitted under Rule 12. And in this case, the Settlement Agreement was the subject of substantial discovery, and is largely based on testimony subject to full cross-examination. As the August 5 ruling correctly held, none of the matters identified in party settlement comments as items for hearings turned on further cross-examination – the items were largely matters speculating on future events, which are more in the nature of argument than concrete factual exposition.<sup>20</sup>

The case cited by ORA is further distinguished from this case by the fact that the outcome-determinative fact relied on by the Commission – whether a specific generating project was needed – was provided by a non-party report filed with a federal agency. The Commission decision in that case relied solely on that report. ORA does not – and cannot – point to a plausible basis for a disposition in this case that relies on a similar, singular, uncorroborated piece of hearsay. Nor does ORA offer any basis for its "lack of due process" assertion. Due

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<sup>19</sup> "VGI Program" is used herein as defined in the Settlement Agreement (Section II, p. 3): "SDG&E's Vehicle-Grid Integration Pilot Program set forth in the Application, as modified by the Settlement Agreement."

<sup>20</sup> August 5 ruling, p. 22.



process in this context requires prior notice and an opportunity to be heard, something amply provided in the Rule 12 process, including the extensive comments on the settlement submitted by parties, and in the subsequent procedures ordered by the August 5 ruling.

**B. P.U. Code § 783 and tariff Rules 15 and 16 do not apply here**

TURN (brief at 36-37) argues that the VGI Program ought to be guided by the very specific customer contribution provisions of SDG&E Electric Rules 15 and 16 governing line extensions; not to do so would violate P.U. Code § 783 and, by implication, the undue preference provisions of § 453. The short answer is that Rules 15 and 16, and § 783, simply don't apply here (and, by implication, nor does § 453). SDG&E is applying for a pilot program specific to grid-integrated EV charging facilities, which will have its own separate tariff, and is governed by separate statutes and policy concerns.

The cited statute and tariff govern generally the extension of electric service to new and existing customers, and questions of cost allocation between such new load and all ratepayers. Even TURN doesn't appear to claim that the statute and rules govern this application; rather, the argument seems to be that the extension rules should apply by analogy. *See* TURN brief at 30-37, section 4.4.

TURN apparently confuses SDG&E's VGI Program with other proposals. Rules 15 and 16 simply do not apply to the VGI Program proposal. Under SDG&E's engineering design of the VGI Facility,<sup>21</sup> the facility is owned end-to-end and operated by SDG&E as a stand-alone separate service point (with an easement granted by the site host). As such, it is not subject to section 783 or Rules 15 and 16, which would apply to a line extension serving any separate customer load (*e.g.*, commercial building load, EV charging stations, home load), not to

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<sup>21</sup> Ex. SD-7 (Schimka) ST-42:14-ST-43:24.

SDG&E's VGI Facility design as TURN implies. Bottom line, this matter is not an application for a line extension; it is an application for a utility grid-integrated EV charging program, which has separate standards to meet under the public utilities code.<sup>22</sup>

#### **IV. SDG&E OWNERSHIP OFFERS IMPORTANT PUBLIC INTEREST BENEFITS**

ORA (brief at 9) and UCAN (brief at 16) point to the Settlement Agreement's VGI Rate-to-Host option as disproving the need for utility ownership.

The record shows that SDG&E ownership will provide unique consumer protections in at least two regards. First, the charging units will be maintained to utility reliability standards. Because VGI Facility assets are to be funded by all ratepayers, it is appropriate that SDG&E will be responsible for ensuring that the entire set of assets from end-to-end are kept in good working order and are used and useful for the life of these assets, to the benefit of all ratepayers. Ex. SD-10 (Schimka) RS-7:16-RS-8:5. Second, the availability of EV charging costs as a separate item on the SDG&E customer bill will provide transparency and inform customer charging preferences, including for customer/site hosts enrolled in the VGI Rate-to-Host option. SDG&E's opening brief details the record supporting SDG&E ownership at 65-66. *See also, [SDG&E's]... Response to Assigned Commissioner and Administrative Law Judge Questions* (August 21, 2015), pp. 17-19.

Below we address two arguments related to utility ownership and ratepayer risk that are not treated in SDG&E's opening brief.

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<sup>22</sup> If it has merit at all, it seems that TURN's concern applies with even more force to the settlement in SCE's A.14-10-010, where the "make-ready" extension is to customer EV charging facilities – not utility-owned facilities.

**A. Site host termination is a small and manageable risk**

ORA (brief at 20) and TURN (brief at 15-18) decrie the risk that site host termination could strand the VGI Facility; *i.e.*, render it no longer “used and useful”. There are three reasons why this risk is negligible. First, as part of the VGI Program, SDG&E will obtain an easement to install, operate and maintain the VGI Facility.<sup>23</sup> With an easement in place, the key benefit of end-to-end ownership of the VGI Facility by SDG&E is that regardless of any turnover of property ownership, management or equipment vendor, SDG&E will continue to own and operate the VGI Facility to the benefit of all ratepayers and EV drivers who use the facility.

Second, site hosts will also be required to contract with SDG&E for a minimum required term of VGI Program participation, usage of the equipment and other matters relevant to that specific host site. Terms would include VGI Program requirements regarding who may use the equipment. In the event that there is a request from the site host to relocate the VGI Facility, contract provisions will spell out who would pay for relocation of equipment (*e.g.*, in the event of a redevelopment, tenant improvement or related event). The process and consequences for requesting an early termination from the VGI Program and other modifications to the contract will be handled in accordance with the existing SDG&E contract process, protocols and business terms in order to protect ratepayer assets and prevent undue costs to ratepayers, just as SDG&E currently does for existing distribution facilities.

Third, the most effective mitigation of such small risks is the VGI Program’s careful screening of potential host sites (Ex. SD-2 (Schimka) RS-7:4-18), which should screen out most sites with unacceptable potential for turnover or vacancy. While SDG&E and stakeholders will remain vigilant for this remote possibility, it must be stressed that this is a pilot that will allow

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<sup>23</sup> Ex. SD-7 (Schimka) ST-43, Figure 2, n. 1.

the Commission to explore and learn from this effort. As described above, every effort will be made to ensure that the VGI Facilities remain used and useful to the benefit of all ratepayers.

**B. Utility ownership is a small portion of any ratepayer risk.**

Concern with utility ownership of charging infrastructure in this proceeding is focused on the EVSE, which represents a small portion of the utility investment necessary to support EV charging.<sup>24</sup> Ratepayer advocates assert that limiting utility ownership and responsibility to the “make ready” work connecting the EVSE to the grid would limit ratepayer risk.<sup>25</sup> This would leave it to the site host to insure that the EXSE remains used and useful. Not acknowledged are the additional risks to the smaller investment due to the lack of utility ownership; for example, if the EVSE is not maintained, the make-ready is stranded. Also ignored are the foregone benefits of robust data collection and cost-effectiveness measurement. Ratepayer advocates miss the point that, under the VGI Program, a small additional cost/risk is exchanged for significant ratepayer benefits.

Finally, the unique properties of the VGI Program when compared to other utility proposals make end-to-end ownership and accountability critical:

- Because the VGI Rate-to-EV Driver option requires the use of a revenue grade meter to enable the bill-to-home billing benefit of the program (some of which could be embedded in the EVSE, from some vendors). This billing responsibility requires

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<sup>24</sup> D.14-12-079, *passim*; ORA brief at 9, 16-17; TURN brief at 15-18; and UCAN brief at 8-14; Ex. SD-7 (Schimka) ST-43, Figure 2.

<sup>25</sup> Under the settlement submitted in SCE’s A.14-10-014, a ratepayer-funded “rebate” of unspecified amount would also be paid to host sites for the *Charge Ready* service. See, *Motion for Approval of Phase I Settlement Agreement Between and Among [SCE and certain parties]* (July 9, 2015), Attachment A, p. 8.

ownership, especially regarding the importance of metering in the billing operations.<sup>26</sup>

- The VGI Program’s EVSE metering components, and the data collection requirements placed on the qualified vendor to monitor the performance of the VGI Facility and to collect and send the data to SDG&E serves two purposes: 1) to provide data necessary to bill the customer, which in turn provides valuable feedback to the customers regarding how effectively they utilize the VGI Rate, and 2) to provide VGI Facility performance data necessary to evaluate the VGI Program to determine its cost-effectiveness and to help inform Commission policy.

#### **V. THE VGI PROGRAM WILL LIKELY PROVE COST-EFFECTIVE**

SDG&E’s testimony and the Settlement Agreement affirm that the proposed cost-benefit analysis and methodology will enable the Commission and other stakeholders to determine how effectively grid-integrated charging benefits the grid and all ratepayers. The illustrative cost-effectiveness modeling SDG&E performed suggests that the VGI Program can yield net benefits to both ratepayers and society as a whole and can be implemented without upward pressure on rates for non-participating customers.<sup>27</sup> VGI Program is the only proposal before the Commission (including a proposed settlement signed by the ratepayer advocates in another proceeding) to offer a specific means to demonstrate that the benefits of making this investment

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<sup>26</sup> See, SDG&E’s August 21, 2015 response to Assigned Commissioner and ALJ questions (August 21, 2015), p. 18, and n. 18, “this meter is the responsibility of SDG&E, under Commission’s oversight, and not that of the California Division of Measurement Standards.” Section III., ¶ M., requires that “Metering at the EVSE level must be compatible with SDG&E billing and metering requirements (*i.e.*, tolerances, accessibility, testability, and re-calibration, as needed), and/or submetering protocol if and as approved by the Energy Division.”

<sup>27</sup> SDG&E brief at 75-81 summarizes the record on SDG&E’s cost-effectiveness showing.

outweigh the costs.<sup>28</sup> Below, SDG&E refutes arguments by TURN and UCAN questioning SDG&E's cost-effectiveness showing.

**A. Current EV adoption rate yields net ratepayer benefits**

TURN wrongly claims that "... benefits of the program only accrue to non-participating ratepayers if there is a very large growth in the EV market, far more than the VGI Program is proposed to generate."<sup>29</sup> SDG&E's cost-effectiveness analysis does not assume that the VGI Program will generate EV growth different from the Non-Utility Flat Fee scenario.<sup>30</sup> TURN admits<sup>31</sup> that "the current annual EV adoption rate" in SDG&E's service territory will produce a positive rate payer impact (RIM<sup>32</sup> test result). So the current annual EV adoption rate does not produce a "very large growth in the EV market" as claimed by TURN, but it does provide positive ratepayer benefits at the overall EV market level as acknowledged by TURN.

**B. UCAN's calculations yield net VGI impacts similar to SDG&E's**

UCAN claims "The utility's cost effectiveness analysis ... failed to isolate program impacts from market impacts" and states that "the traditional methodology is to run a base case without the program and then an alternative case with the program and calculate the difference."<sup>33</sup> UCAN Table 1 (brief at 11) shows its "EVSE Only" case with a resulting net benefit (B – C) of \$(67.0) million. This result is virtually identical (within 5%) to SDG&E's

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<sup>28</sup> The cost-effectiveness methodology is detailed at Ex. SD-6 (Martin) JCM-18:4-JCM-35:8. *See also*, Section III, ¶ L and Appendix B, where the Settlement Agreement adopts, clarifies and supplements the data gathering required to support this methodology and analysis.

<sup>29</sup> TURN brief at 21, section 4.3.2.

<sup>30</sup> *See* Ex. SD-6 (Martin) JCM-5:22-23.

<sup>31</sup> TURN brief at 25.

<sup>32</sup> Ratepayer Impact Measure, as defined in the California Standard Practice Manual, p. 13. *See*, Ex. SD-6 (Martin) JCM-6:16-21 and n. 5.

<sup>33</sup> UCAN brief at 9-10.

VGI Net Impact of (\$63.7) million for the RIM test, published in Table 6-11 below.<sup>34</sup> The VGI Program’s cost-effectiveness analysis measures the benefits of load shifting caused by the VGI Rate. As such, SDG&E’s VGI Net Impacts measure the load shifting differences and net benefits by comparing a “base case” (the Non-Utility Flat Fee Scenario) with an “alternative case” (the SDG&E VGI Rate Scenario). UCAN’s results reinforce the validity of SDG&E’s VGI Net Impact cost effectiveness analysis and reveal UCAN’s flawed assertion.

**Table 6-11**

| <b>Cost Effectiveness Tests - Illustrative Results<br/>(NPV \$ Millions)</b> |                                |            |            |            |
|--|--------------------------------|------------|------------|------------|
| <b>Scenario</b>  | <b>Cost Effectiveness Test</b> |            |            |            |
|  | <b>RIM</b>                     | <b>PCT</b> | <b>TRC</b> | <b>SCT</b> |
| SDG&E VGI Rate   | \$127.7                        | \$172.3    | \$193.4    | \$387.3    |
| Non-utility Flat Fee   | \$191.4                        | \$154.1    | \$183.8    | \$377.7    |
| VGI Net Impact   | (\$63.7)                       | \$18.2     | \$9.6      | \$9.6      |
| VGI % of Flat  | 67%                            | 112%       | 105%       | 103%       |

**C. TURN incorrectly claims that SDG&E gives the VGI Program credit for adding over 180,000 EVs**

TURN incorrectly claims that SDG&E attributes the increase of 180,000 electric vehicles as a benefit due to the VGI Program.<sup>35</sup> TURN ignores that the same EV population forecast is used in both the market scenarios (SDG&E VGI Rate scenario and the Non-utility Flat Fee “base case” scenario).<sup>36</sup> Similar to the total EV population, SDG&E also used the same total kWh

<sup>34</sup> See Ex. SD-6 (Martin) JCM-32:1-8.

<sup>35</sup> TURN brief at 25.

<sup>36</sup> Ex. SD-6 (Martin) JCM-17:3-4.

usage in both market scenarios analyzed. Therefore both scenarios have the same total load.<sup>37</sup>

The VGI Net Impacts measures load shifting benefits of the VGI Program, not of EV growth nor of load growth benefits.

Consistent with the cost-effectiveness analysis of Load Management or Demand Response programs, the VGI Net Impacts modeled in the cost-effectiveness analysis illustrate the net load shifting effects of the VGI Rate compared to a Flat Fee “base case” that does not provide the time variant price signal of the VGI Rate. This analysis does not measure the impacts of load growth from EV adoption, as mischaracterized by TURN. The VGI Net Impact in table 6-11,<sup>38</sup> measures the *relative* benefit of the VGI Rate scenario with no difference in vehicle volumes between scenarios. Therefore SDG&E analyzed the VGI Program as a Demand Response program and not as a Load Building program that takes credit for EV additions.

**D. TURN incorrectly defines the VGI Program as Load Building and ignores Total Resource Cost and Societal benefits.**

TURN states that the RIM test is the proper measure of cost-effectiveness for a Load Building program. This statement is true, but it falsely implies that the VGI Program is nothing but a Load Building program. As stated above, SDG&E’s VGI Net Impacts in its cost-effectiveness analysis do not include any Load Building benefits or take credit for EV adoptions.

The VGI Program is intended to modify EV charging demand by time of day for the benefit of the grid, just like Load Management or Demand Response programs. The lower fuel supply costs illustrated in Table 6-15 (Ex, SD-6 (Martin) JCM-35) reflect this benefit. The VGI Program provides the opportunity to use low cost electricity as a vehicle fuel which encourages

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<sup>37</sup> This fact is illustrated in Ex. SD-6 (Martin) JCM-33, Table 6-12. The reader can see both scenarios have the same values for Gasoline Saving, Avoided CO<sub>2</sub>, LCFS Benefit, and Criteria Pollutants. These values are all calculated based on the same kWh used in both scenarios.

<sup>38</sup> Ex. SD-6 (Martin) JCM-32.



the substitution of electricity for gasoline, thereby providing environmental benefits<sup>39</sup> consistent with state policy and law.<sup>40</sup> This fuel substitution has an indirect effect on electric load building. However, because SDG&E included the same fuel substitution effects in both scenarios analyzed (*i.e.*, the same total EV adoption and kWh usage for the VGI Rate scenario compared to the Flat Fee scenario), the Net VGI Impact cannot be narrowly defined as fuel substitution benefits either. The cost-effectiveness analysis does not claim any load building or fuel substitution effects of the VGI Program in the two scenario comparison – only the net benefits of the load shifting due to EV charging response to the VGI Rate.

**E. TURN uses the beneficial load building properties of EV charging as an excuse to ignore the VGI Program’s TRC and societal benefits.**

VGI Net Impacts used in SDG&E cost-effectiveness testimony are illustrated in Table 6-11 (reproduced above). VGI Net Impacts are positive for the Participant Cost Test (“PCT”), Total Resource Cost (“TRC”)<sup>41</sup> test, and the Societal Cost Test (“SCT”). These are net positive impacts that TURN (as well as UCAN) are unwilling to recognize. It is true that the RIM test is negative for VGI Net Impacts, but the RIM test is not the sole deciding cost-benefit test the Commission should consider.<sup>42</sup> TURN’s false claim that “there are no positive ‘net benefits’ to non-participating ratepayers”<sup>43</sup> ignores that ratepayers are important beneficiaries of the positive impacts illustrated in the TRC and SCT results.

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<sup>39</sup> See, Ex SD-6 (Martin) JCM-33, Table 6-12 (Societal Benefits: Avoided Gasoline CO2, LCFS Benefit, Criteria Pollutant Benefit).

<sup>40</sup> See Ex. SD-6 (Martin) JCM-3:18-JCM-4:2.

<sup>41</sup> See, California Standard Practice Manual (p. 18): “The test is applicable to conservation, load management, and fuel substitution programs. For fuel substitution programs, the test measures the net effect of the impacts from the fuel not chosen versus the impacts from the fuel that is chosen as a result of the program.” This manual is described at Ex. SD-6 (Martin) JCM-6:16-18 and n.5.

<sup>42</sup> See Ex. SD-12 (Martin) JCM-14:10 - JCM-15:4.

<sup>43</sup> TURN brief at 29.

TURN asks (brief at 25): “If current adoption rates are forecast to produce 40% of the Governor’s goal by 2028, then what is the point at all of having SDG&E invest \$100 million to build 5,500 incremental charging stations?” The answer to TURN’s chicken-and-egg question is simple: SDG&E’s investment in the VGI Program (among other goals) will help meet the Governors Executive Order ZEV goal of providing grid-integrated infrastructure to support over a million ZEVs by 2020.

## **VI. THE VGI PROGRAM SATISFIES THE COMPETITIVE BALANCING TEST**

The competitive balancing test involves weighing the potential benefits offered by utility participation against the potential harm arising from utility ownership of EV infrastructure and participation in the EV fueling market.<sup>44</sup> In weighing the benefits against potential competitive harm, it is appropriate to examine the impacts on public and ratepayer welfare. SDG&E’s testimony and briefing shows that the potential benefits to public and ratepayer welfare from the VGI Program are significant, while the potential for competitive harm is essentially non-existent.<sup>45</sup> SDG&E refutes below new contentions by ORA and Vote Solar suggesting that the VGI Program has anticompetitive effects.

### **A. Contrary to ORA’s assertion, the VGI Program reduces market concentration**

ORA cites to data in Mr. Pulliam’s testimony to suggest that the VGI Program will be so large as to stifle competition,<sup>46</sup> but it ignores Mr. Pulliam’s conclusions as to SDG&E’s impact on competition.

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<sup>44</sup> See, Decision (“D.”) 14-12-079, pp. 8-9.

<sup>45</sup> See, e.g., SDG&E brief at 82-91.

<sup>46</sup> ORA brief at 11-12 and nn. 30-35. Barry Pulliam testified on the competitive impact of the VGI proposal. Mr. Pulliam is an economist with more than 25 years’ experience working on competitive issues in the energy industry. Mr. Pulliam’s experience includes work on behalf of the U.S. Department of Justice and the Federal Trade Commission. In addition, Mr. Pulliam has examined

For example, ORA states that SDG&E will have a 38% market share once the 5,500 charging stations are deployed, citing to Mr. Pulliam's Appendix 3. Mr. Pulliam's testimony (based on Appendix 3 information) actually shows that the 38% market share would be expected to occur during the first year of deployment, but more importantly, that SDG&E's entry would *reduce* market concentration levels dramatically. In his rebuttal testimony, Mr. Pulliam showed that the HHI level would drop by more than 1,000 points, from a current level of 4,207 to 3,052.<sup>47</sup> Moreover, Mr. Pulliam showed that market concentration levels would be reduced below current levels throughout the program deployment period. ORA ignores this pro-competitive result.

ORA also cites to Mr. Pulliam's testimony to suggest that SDG&E's market share as of 2025 would be 20%.<sup>48</sup> Mr. Pulliam arrived at this estimate based on an assumption of EV growth consistent with the state-wide deployment of 1.5 million vehicles by 2025 and the deployment of one commercial charger for every five EVs. SDG&E's service area accounts for 9.4% of vehicles in the State. If 1.5 million electric vehicles are on California roads by 2025, this implies a total of approximately 28,200 commercial EVSE. SDG&E's 5,500 EVSE would represent 19.5% of that amount.<sup>49</sup>

At hearing, Mr. Pulliam presented an analysis of SDG&E's projected market share based on the most recent forecasts of commercial EVSE sales prepared by Navigant Research. Those forecasts indicate that SDG&E's maximum potential share of the market is likely to be much

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competitive issues on behalf of the State of California's Department of Justice and Attorney General numerous times. Ex. SD-7 (Pulliam) ST-38:21-39:13 and Appendix 1 to that testimony

<sup>47</sup> Ex. SD-7 (Pulliam) BP-8, Table 2. The referenced HHI Index is described at Ex. SD-7 (Pulliam) ST-27:1-ST-28:2.

<sup>48</sup> ORA brief at 11-12, *citing*, Ex. SD-7 (Pulliam) ST-37.

<sup>49</sup>  $1,500,000 \text{ EV} \times 9.4\% \times 0.2 = 28,200 \text{ EVSE}$ .  $28,200 \text{ EVSE} / 5,500 \text{ SDGE EVSE} = 19.5\%$ .

lower than 20%.<sup>50</sup> In response to cross-examination at hearing by UCAN, Mr. Pulliam used the Navigant Research data to calculate SDG&E’s potential share of the commercial EV fueling market, estimating that by 2023 the VGI program should account for less than 10% of commercial EVSE installed in the SDG&E service area.<sup>51</sup> The calculations Mr. Pulliam made at hearing for 2023 are set forth below, along with identical calculations using data for 2018 (the final year of deployment under the VGI Program) and 2020 (when the state targets EVSE infrastructure capable of serving one million EVs).

**SDG&E Share of San Diego Area Commercial  
EVSE Fueling Services Market**

|                               | 2018    | 2020      | 2023      |
|-------------------------------|---------|-----------|-----------|
|                               | (2)     | (3)       | (4)       |
| U.S. Total EVSE               | 661,024 | 1,188,466 | 2,172,844 |
| California EVSE (29% of U.S.) | 191,697 | 344,655   | 630,125   |
| San Diego EVSE (9.4% of CA)   | 18,020  | 32,398    | 59,232    |
| SDG&E VGI Proposal Max        | 5,500   | 5,500     | 5,500     |
| SDG&E VGI Share               | 31%     | 17%       | 9%        |

Again, ORA conveniently ignored this evidence in discussing SDG&E’s potential market share.

In sum, the record evidence shows that, (1) SDG&E’s entry into the Commercial EV Fueling Market through the VGI Program will lower, not increase, market concentration levels during the period of deployment, and, (2) using the most recent forecast of EVSE available from

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<sup>50</sup> Ex. SD-16, Navigant Research, *Electric Vehicle Charging Services* (1Q 2015); Ex. SD-17, “Forecast U.S. Commercial EVSE Sales (2014-2023).” ChargePoint’s competition witnesses also relied on Navigant data in their testimony. Ex. CP-3 (Monsen) 16:12-14, n. 24, and Attachment B; Monsen, T. 876:6-25 (May 1, 2015); Ex. CP-2 (Jones) 7:5-7; Jones, T. 775:7-776:26 (April 30, 2015).

<sup>51</sup> Pulliam, T. 706:10-709:19 (April 30, 2015).

Navigant, SDG&E's share of the Commercial EV Fueling market would be less than 20% as of 2020 and less than 10% by 2023. ORA's contention that the VGI Program will lead to a dominant market share is unfounded.

**B. There is no evidence that the VGI Program would “unfairly compete” with private companies.**

Vote Solar (brief at 2) repeats the claim that:

... the Settlement Agreement would give the Applicant an unfair advantage by allowing it to cherry-pick the most profitable charging opportunities within its region, all while being backed by ratepayer recovery options that are not available to private competitors. This set up is contrary to *Clean Energy Fuels Corp. v. California Public Utilities Commission* (2014) 227 Cal. App. 4th 641 and ...[P.U.] Code § 740.3. The Settlement Agreement does not “ensure that the [Applicant] do[es] not unfairly compete with nonutility enterprises . . . .” (Pub. Util. Code, § 740.3, subd. (c).)

This argument fails on two grounds. First, there is nothing other than bald assertion in this record supporting that the VGI Program would unfairly compete. SDG&E's evidence shows that “unfair competition” is not a vague epithet, but a concept with substantive standards, and that the VGI Program is not unfair by those standards.<sup>52</sup> Indeed, the record contradicts Vote Solar's lurid characterization of the SDG&E VGI Program as “cherry-pick[ing] the most profitable charging opportunities within its region.”<sup>53</sup> The evidence shows that, in fact, the targeted MuDs and workplaces are underserved as a whole; *i.e.*, EVSE are largely not being deployed in those venues.<sup>54</sup> The record shows that government grants have been important to the small amount of EV charging installation that has occurred at such venues.<sup>55</sup> And where the

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<sup>52</sup> See, SDG&E brief at 86-91.

<sup>53</sup> Vote Solar brief at 2.

<sup>54</sup> Ex. SD-7 (Pulliam) ST-28:6-8.

<sup>55</sup> *Id.*, ST-11:13-19, ST-24:3-11.

record shows that such venues have installed EV charging in the San Diego region, in each instance substantial government grants funded the charging installation.<sup>56</sup>

Second, even if, in spite of the evidence, the Commission assumes that any utility charging program is “unfair” to putative competitors, the *Clean Energy* decision supports program approval. This case upheld the Commission’s approval of a tariff, under which Southern California Gas Company (“SoCalGas”) would design, build, own, operate, and maintain equipment on nonresidential customers’ property to compress, store, and dispense natural gas for customer end-use applications, including natural gas vehicle refueling, combined heat and power facilities, and peaking power plants. In specifically considering the “unfairly compete” standard in P.U. Code § 740.3, the court of appeal found that while the Commission acknowledged that SoCalGas’s monopoly status could provide an unfair competitive advantage over nonutility enterprises, the Commission had imposed several reporting, cost tracking, and marketing restrictions on SoCalGas to prevent it from unfairly competing. With those restrictions in place, the Commission determined the tariff does not provide SoCalGas unfair competitive advantages.

The VGI Program contains restrictions that similarly limit any ability to compete unfairly. First, as noted, the program targets underserved venues – arenas where, in the absence of government grants, the market has not yet stepped up to serve.<sup>57</sup> Second, the program is of limited scope and duration. Third, under the VGI Program, SDG&E will *not* design the EV charging solutions, but will look to third party vendors to provide those solutions in a

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<sup>56</sup> Jones, T. 754:14-22, 755:15-23, 760:12-20 (April 30, 2015); Ex. SD-19; Ex. SD-21; Ex. SD-22.

<sup>57</sup> Ex. SD-7 (Pulliam) ST-22:1-ST-25:4; Ex. SD-9 (Pulliam) BP-10:1-BP-13:8; Ex. SD-15, “2015-2016 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program Lead Commissioner Report,” pp. 39-40.

competitive process.<sup>58</sup> Contrast these three items with the facts the court relied on in *Clean Energy*, where the tariff program was not restricted as to venue, size or duration, and SoCalGas was permitted to design the equipment necessary for the compression service. Finally, as in *Clean Energy*, the VGI Program has a regulated rate and extensive reporting requirements. These VGI Program elements prevent any unfair competition.<sup>59</sup>

## VII. VGI PROGRAM ADDRESSES CRITICAL BARRIERS TO EV ADOPTION

TURN (brief at 12-13) and JMP (brief at 5-6) suggest that other barriers to EV adoption render the VGI Program too risky from a ratepayer perspective. While TURN and JMP identify a number of barriers to EV adoption, some of which are not appropriately addressed by a utility, the VGI Program addresses one barrier that is appropriate to SDG&E's role in the market place – the construction and maintenance of grid-integrated charging.

The VGI Program aims to support the efficient integration of EV loads with the grid; this helps preserve and optimize existing system and circuit capacity, and avoids adding new fossil generation, to the benefit of all ratepayers. One of the positive consequences of this program will be to make charging facilities available at locations that deliver the greatest value to both the grid (and the customers who use and support it) and to existing and potential new EV Drivers by eliminating one key market barrier – the cost and availability of charging facilities.<sup>60</sup> For

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<sup>58</sup> Section III., Guiding Principle 7, ¶ A. and Appendix C.

<sup>59</sup> Without offering evidentiary support, Vote Solar (brief at 5) also alleges that the VGI Program “will Chill the Private Financing Market.” There is no record evidence supporting such a contention in this proceeding, and in fact the court’s *Clean Energy* decision upheld contrary Commission findings that “SoCalGas’s low cost of capital does not give it an unfair competitive advantage over non-utilities providing compressed gas services.” *Id.*, 227 Cal. App. 4<sup>th</sup> at 651.

<sup>60</sup> TURN foolishly tries to downplay the importance of the availability of EV charging facilities as an unimportant factor in EV adoption. The record emphatically contradicts this. Ex. SD-1 (Avery) LK-13:11-20; Ex. SD-12 (Martin) JCM-22:13-JCM-23:6. See, Executive Order B-16-2012 (March 2012) at <http://gov.ca.gov/news.php?id=17472>. SDG&E’s testimony showed the extent of charging infrastructure shortfall under different levels of infrastructure installation. Ex. SD-7 (Schimka) ST-

example, MuD residents represent about half of SDG&E's residential population; nearly all of this large customer population currently cannot acquire an EV because they are unable to charge an EV at the most preferred location – their homes. Much of this is due to the difficulty of siting charging facilities at these locations, as documented in Mr. Schimka's testimony (Ex. SD-2 (Schimka) RS-7, n. 6). There is no denying that the presence of charging facilities at MuD will positively affect EV adoption. Workplace charging eliminates another important barrier or stated another way, addressing a missed opportunity – maximizing zero emission miles driven per EV. The workplace setting not only creates an opportunity for EV charging when none exist at one's residence, it also creates an opportunity to increase zero emission miles driven per EV, especially with plug-in hybrid electric vehicles with limited range due to battery capacities. No one has challenged that the lack of work place charging is a barrier to increasing zero emission miles driven per EV. Ex. SD-2 (Schimka) RS-2: 3-4, RS-4:13; Ex. SD-1 (Avery) LK-12:9-11. It is telling that program opponents appear to recognize these conditions and have recommended targeting EVSE deployment with contradictory tactics: solely at MuD sites (TURN brief at 37), solely at workplaces (UCAN brief at 23) or an arbitrary, mandated 75/25 split between the two (ORA brief at 19).

Thus, the suggestion by TURN and JMP, that other barriers to EV adoption render the VGI Program inadvisable, is not supported by logic or the record. The VGI Program may be the “tipping point” in persuading MuD and workplace site hosts to participate in the program, grant an easement and provide valuable parking spaces to support the VGI Program. Without the VGI

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40:10-ST-41:8; see also, Ex. SD-14 (*The Market for Electric Vehicles: Indirect Network Effects and Policy Impacts, February 2015*), p. 1, 14-15; Ex. SD-15 (California Energy Commission Lead Commission Report: *2015-2016 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program*, March 2015), pp. 40-41. See also, Settlement Agreement, Guiding Principle 1.b: “Must ... [a]ccelerate the adoption of 1.5 million zero emission vehicles by 2025....”



Program to create the demand for grid-integrated charging, there is little incentive for host sites to give up valuable parking spaces (and make a participation payment) to enroll in the VGI Program. The presence of “other barriers” to EV adoption is not sufficient justification to reject measures that promote state policies and provide net benefits to ratepayers.

## **VIII. VGI PROGRAM IS CONSISTENT WITH THE COMMISSION’S RESOURCE PLANNING**

### **A. The VGI Program is not about “new load.”**

Shell (brief at 6) takes another run at its direct access argument:

The new load served at an EV charging facility that is developed as a result of this application represents incremental load that was not anticipated in SDG&E’s approved bundled procurement plan. This new, unanticipated load should not be subject to the “cap” on direct access that otherwise applies under P.U. Code Section 365.1(b). An EV charging station owner/operator should therefore have the option to purchase its energy from the utility or from a third party supplier, without the restrictions or limitations on direct access that otherwise apply under D.10-03-022 (March 11, 2010).

This argument fails for two reasons. First, as stated above in Section V., VGI Program cost-effectiveness analysis does not attribute any “new load” to the VGI Program. Instead, the cost-effectiveness analysis depicts the net benefits associated with the VGI Program’s effective load shifting given an assumed level of EV adoption and related charging loads over time. As modeled in the cost-effectiveness analysis, VGI Program impacts on EV charging load shift the load to different, low-cost hours, away from high-cost hours of the day.

Second, there is no reason, except for Shell’s unsupported assertion, to hold any “new, unanticipated load” attributable to the VGI Program outside the direct access cap. The Commission, in D.10-07-044, has already decided this issue in the context of EV charging:

If a provider of electric vehicles charging services attempts to procure electricity on the wholesale market, rather than purchasing electricity from a load-serving entity, the charging provider’s purchase of electricity will constitute a “direct transaction” under [P.U. Code] § 331(c) and will be subject to all the obligations and limitations that apply to direct transactions including § 365.1. Section 365.1

suspends the ability of retail end-use customers to acquire service from “other providers” subject to a maximum limit provided in the section.

**B. The VGI Program is consistent with the Commission’s DRP policy.**

Vote Solar (brief at 3) proposes that the Commission require the VGI Program:

... to include a site’s impact on alleviating grid constraints identified in the Applicant’s Distribution Resources Plan (“DRP”) as one of the siting evaluation criteria. Further, the Applicant should be required to solicit applications in areas of the grid where grid constraints exist to evaluate the potential of its ... [VGI Program] to alleviate these constraints as part of an integrated Distributed Energy Resources ... program (as identified in the Applicant’s DRP).

The Commission should reject this suggestion on two grounds. First, it is tardy, and unsupported by testimony or by reference to officially-noticeable facts. Second, Vote Solar misunderstands the objectives of the VGI Program. With the expected growth in EV adoption, there will be load growth. The VGI Program intends to encourage EV charging during times of day that are efficiently integrated with SDG&E’s system accomplished through the time-variant VGI Rate and enabling vehicle charging infrastructure. The VGI Rate is designed to encourage charging during the respective circuit and system non-peak period, as well as to discourage charging during the respective circuit and system peak period. This will result in the efficient use of the distribution system. Siting under the VGI Program will be determined by site host demand at the targeted venues (MuDs and workplaces); the VGI pricing aims to limit the constraints referenced by Vote Solar. The VGI Program is designed to achieve many of the same goals as identified in the Commission’s DRP guidance document.<sup>61</sup> Adding the site

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<sup>61</sup> SDG&E’s testimony addressed how the VGI Program supports the DRP goals (Ex. SD-8 (Avery) JPA-2:16-JPA-3:5):

... SDG&E’s pilot can avoid potential reliability issues and reduce the need for costly system upgrades or additional new fossil generation. Indeed, SDG&E’s proposed VGI rate not only sends appropriate price signals that reflect grid conditions to EV drivers/customers, it also reflects individual circuit conditions, thereby avoiding unnecessary investments in the distribution grid. The goal of avoiding unnecessary grid investments is a concept being explored in various Commission proceedings,

selection criteria proposed by Vote Solar is not only devoid of record support, but it is self-evident that such criteria would chill program adoption by adding cost and time to the site selection process.

## **IX. THE VGI RATE IS REASONABLE**

Although the VGI Rate has been well-received in general in this case, the few concerns are discussed below.

### **A. FEA's concerns lack merit**

In its opening brief, FEA recommends that the Commission direct SDG&E to file periodic monitoring reports, and adjust rates to correct for the difference between expected and actual energy usage volumes.<sup>62</sup> This concern was addressed in evidentiary hearings, where SDG&E witness Cynthia Fang expressed agreement that actual usage at VGI Facilities may vary from the assumptions made in developing the rate,<sup>63</sup> and that SDG&E does not have any issues with the monitoring and tracking recommendations made by FEA witness Maurice Brubaker.<sup>64</sup>

### **B. Any site host charges will not affect the VGI Rate price signals**

ORA (brief at 9) complains that, under the VGI Rate-to-Host option:

... [t]he 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.

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including the Distribution Resource Planning rulemaking and the utilities' ... [DRP] applications.... Moreover, since the ... [OIR] was launched in 2009, SDG&E has supported the Commission's goal to ensure the efficient integration of EV loads with the grid.

<sup>62</sup> FEA brief at 3.

<sup>63</sup> Fang, T. 160:10-26 (April 27, 2015).

<sup>64</sup> Fang, T. 162:1-4 (April 27, 2015).

ORA's position that such site host fees would necessarily obscure the VGI Rate price signals is wrong as a matter of common-sense economics. Indeed, ChargePoint's expert testified that fixed fees added by a site host would not obscure the changing (hourly) price signal.<sup>65</sup>

**X. THE SETTLEMENT DEFINES DISADVANTAGED COMMUNITIES AS IDENTIFIED BY CAL EPA'S ENVIROSCREEN TOOL.**

JMP (brief at 17) asserts without support that "...[t]he reality of the situation is that the vast majority of SDG&E ratepayers live in the disadvantaged communities identified by the Cal EPA EnviroScreen tool." Just to clarify, the Settlement Agreement (section III., ¶ I.) provides specifically 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 (de León, 2013)." So SDG&E is committed to the use of that screening tool to identify Disadvantaged Communities for the VGI Program.

**XI. CONCLUSION**

The Commission, responding to statutory direction and executive orders, has, in the OIR, encouraged utilities to submit applications for EV charging pilots. SDG&E has done so, and, working with stakeholders, has submitted a settlement with broad and diverse support. The resulting VGI Program offers a specific rate, and targets underserved venues that can make best use of that rate – a rate that promises to mitigate the demand and operational impacts of EV adoption that would otherwise counter the state's environmental goals. The VGI Program offers pro-competitive procurement that will leverage third-party innovation. It also makes extraordinary efforts to reach disadvantaged communities with what is today, a premium transportation mode. The proper concerns of non-settling ratepayer advocates are to the effect that, in the nascent EV charging space, there is risk to ratepayers of investment stranded due to

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<sup>65</sup> Monsen, T. 881:15-882:7 (May 1, 2015).

technological change or lack of demand. The VGI Program, with its limited scope, minimal bill impacts, data gathering, and cost benefit analysis, minimizes those risks, although SDG&E is not aware of any proposal that would eliminate risks entirely. The Commission must decide whether these small risks are reasonable when balanced against the likely and substantial ratepayer and public interest benefits of EV adoption and grid-integrated charging promoted by the VGI Program.

Respectfully submitted,

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September 18, 2015

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

Application of SAN DIEGO GAS & ELECTRIC  
COMPANY (U902E) for Approval of its Electric  
Vehicle-Grid Integration Pilot Program.

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

And Related Matter.

Rulemaking 13-11-007

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of **REPLY BRIEF OF SAN DIEGO GAS & ELECTRIC COMPANY (U902E)** has been electronically mailed to each party of record of the service list in A14-04-014/R.13-11-007. Any party on the service list who has not provided an electronic mail address was served by placing copies in properly addressed and sealed envelopes and by depositing such envelopes in the United States Mail with first-class postage prepaid.

Copies were also sent via Federal Express to the Administrative Law Judge:

John S. Wong  
Calif. Public Utilities  
Division of Administrative Law Judges  
Room 5106  
505 Van Ness Avenue  
San Francisco, CA 94102-3214

Executed this 18th day of September, 2015 at San Diego, California.

/s/ Tamara Grabowski

Tamara Grabowski



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## CALIFORNIA PUBLIC UTILITIES COMMISSION Service Lists

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**LAST CHANGED: SEPTEMBER 17, 2015**

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