Decision **PROPOSED DECISION OF ALJ WONG (Mailed 12/23/15)**

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

(See Attachment 3 for Service List)

DECISION REGARDING UNDERLYING VEHICLE GRID INTEGRATION APPLICATION AND MOTION TO ADOPT SETTLEMENT AGREEMENT

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DECISION REGARDING UNDERLYING VEHICLE GRID INTEGRATION APPLICATION AND MOTION TO ADOPT SETTLEMENT AGREEMENT

Summary

Today's decision addresses the vehicle-grid integration (VGI) proposal of San Diego Gas & Electric Company (SDG&E).[1] SDG&E's VGI proposal seeks authorization to establish and implement a pilot program to integrate the charging of plug-in electric vehicles (PEVs) with the electric grid through the use of an hourly time-variant rate. This rate would incentivize electric vehicle (EV) owners in SDG&E's service territory to use energy during non-peak periods to charge their EVs, and to maximize the use of the energy generated from renewable sources of energy during the time of day when these resources are at peak production, which are usually at non-peak periods of energy demand. Under the VGI proposal, SDG&E would deploy up to 550 EV site installations, and up to 5,500 EV charging stations, over a sign-up period of five years. These site installations and charging stations would be available for placement at site hosts, in return for an easement.

SDG&E originally sought authorization and approval of its VGI proposal in its application that it filed in April 2014. SDG&E filed its application in response to the goals and objectives set forth by Governor Brown and the California Legislature regarding the following: reduction of greenhouse gas emissions; increasing the amount of energy produced from renewable sources of energy; and increasing the amount of EV charging infrastructure to support one million PEVs by 2020.

[1] The abbreviations used in this decision are set forth in Attachment 1.

After the evidentiary hearings concluded, SDG&E and 16 other parties entered into a settlement (Proposed Settlement). The Proposed Settlement is based on SDG&E's VGI proposal, with a number of modifications agreed to by the settling parties. The cost of SDG&E's original VGI proposal, and the cost of the VGI proposal as modified by the Proposed Settlement are the same, about $103 million. Approximately $65 million of this cost is anticipated to be incurred during the sign-up and installation period and authorized up front. The remainder of the cost recovery, the long term operations and maintenance expenditures, would be sought by SDG&E in future general rate case proceedings.

In today's decision, we deny the motion of the settling parties to adopt the Proposed Settlement, and also reject SDG&E's original VGI proposal. One of the primary reasons for rejecting SDG&E's original VGI proposal and the Proposed Settlement is due to their cost and size.

As provided for in Rule 12.4(c) of the Commission's Rules of Practice and Procedure, we propose the alternative VGI program terms that are set forth in Attachment 2 of this decision and described in today's decision. These alternative terms, if accepted by SDG&E, would allow SDG&E to proceed with this alternative, which we refer to as the 2016 VGI Pilot Program. The 2016 VGI Pilot Program is essentially a scaled down version of SDG&E's VGI proposal, as modified by the Proposed Settlement, with the additional modifications made in today's decision. The 2016 VGI Pilot Program will have a budget of $45 million during the initial roll-out instead of $65 million, and will allow SDG&E to deploy and own approximately 350 EV site installations, corresponding to approximately 3500 EV charging stations, during a sign-up period of approximately three years. Long term operations and maintenance costs shall be

tracked in a separate memorandum account, and offset by participation payments. SDG&E is authorized to seek cost recovery for its future operations and maintenance expenditures in its future general rate case proceedings. These alternative VGI program terms are based on our review of all of the evidence that was presented in the evidentiary hearings, the Proposed Settlement, the various pleadings of the parties, including the comments on the proposed decision, and a careful weighing and balancing of all the considerations set forth in the Governor's Executive Order and in various statutes.

If SDG&E accepts the alternative VGI program terms, we estimate that a typical residential ratepayer of SDG&E using 500 kilowatt hours per month in the inland and coastal zones would experience an increase of about 18 cents over the first year, or about a 0.02% increase. With the full rollout of 350 site installations and 3500 charging stations at the end of the pilot period, the increase relative to current rates would be about $2.75 on an annual basis.

If SDG&E decides to accept the alternative VGI program terms and implements the 2016 VGI Pilot Program, all of the construction and installation of the EV charging infrastructure will be performed safely by licensed electrical contractors with EV infrastructure training certification, and will meet all applicable code requirements.

1. Procedural Background

San Diego Gas & Electric Company (SDG&E) filed Application (A.) 14-04-014 on April 11, 2014. SDG&E's application seeks authorization to establish and implement a pilot program to integrate the charging of plug-in electric vehicles (PEVs) with the electric grid through the use of an hourly

time-variant rate and a PEV charging infrastructure.[2] SDG&E refers to this as its vehicle-grid integration (VGI) pilot program.[3]

Prior to the filing of SDG&E's application, the Commission opened Order Instituting Rulemaking ("Rulemaking" or "R.") 13-11-007 in November 2013.[4] The Rulemaking was opened to address issues relating to expanding the use of alternative-fueled vehicles (AFV) in California. R.13-11-007 referenced that the Rulemaking would continue the work that was started in R.09-08-009 to support Governor Brown's Executive Order B-16-2012, which set a target of creating infrastructure to support up to one million zero-emission vehicles (ZEVs) by 2020, and to have 1.5 million ZEVs on California's roads by 2025. In addition, R.13-11-007 referenced the Governor's February 2013 "ZEV Action Plan," which describes how state agencies can support the ZEV target.

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[2] As used in this decision, a PEV refers to both a pure battery electric vehicle that plugs in to charge, and a plug-in hybrid electric vehicle that is powered by a combination of a gasoline engine and batteries.

[3] We refer to this as the "VGI pilot program" or the "VGI program." We also refer to the "VGI program" to mean SDG&E's VGI program concept as set forth in SDG&E's application and as modified in the settlement that the settling parties reached.

[4] An earlier Rulemaking was opened in R.09-08-009 to address the impacts that electric vehicles (EVs) may have on the electric infrastructure, and the actions the Commission should take. R.09-08-009 considered the tariffs, infrastructure, and policies needed to prepare for the deployment of electric vehicles, while recognizing the benefits that such vehicles could have in achieving California's climate change goals. Three decisions were issued in R.09-08-009. In Decision (D.) 10-07-044, the Commission considered the regulatory authority over entities that sell electric vehicle charging services to the public. In D.11-07-029, the Commission adopted steps to overcome the barriers to the deployment of electric vehicles. D.11-07-029 also adopted a prohibition on utility ownership of electric vehicle service equipment (EVSE) except for charging infrastructure for the utilities' own fleets or workplaces. This prohibition was subsequently overturned in D.14-12-079. Then in D.13-11-002, the Commission modified the requirements for the development of a PEV submetering protocol by adopting a roadmap for a two-phase pilot project.

The first prehearing conference (PHC) in A.14-04-014 was held on August 13, 2014. Due to common issues and related questions of fact, SDG&E's A.14-04-014 was consolidated with R.13-11-007 on September 29, 2014 in the scoping memo and consolidation ruling (scoping memo). The scoping memo recognized that a decision would soon be issued in R.13-11-007 concerning utility infrastructure ownership. That scoping memo adopted a procedural schedule that called for evidentiary hearings to begin during the week of April 6, 2015.

On December 18, 2014, the Commission adopted D.14-12-079 in these consolidated proceedings, which adopted rules to expand the utilities' role in the development and ownership of EV infrastructure by using a case-specific approach. D.14-12-079 also set aside the prohibition adopted in D.11-07-029 that electric utilities could not own EV charging infrastructure.

Following the issuance of D.14-12-079, a second PHC was noticed for, and held on January 21, 2015. The purpose of the second PHC was to discuss the effect of D.14-12-019 on the schedule adopted in the scoping memo, and SDG&E's intention to serve supplemental testimony.

On February 2, 2015, a ruling was issued that adopted a revised procedural schedule. In addition to revising the dates for service of the intervenor testimony, and the SDG&E rebuttal testimony, the evidentiary hearings were scheduled for the week of April 27, 2015.[5]

[5] A March 5, 2015 ruling allowed all of the parties to serve rebuttal testimony on April 13, 2015, and in an April 7. 2015 ruling an additional day of hearing was added.

Six days of evidentiary hearings were then held on April 27, 2015 through May 4, 2015. Over 70 exhibits were identified and admitted into the evidence.[6]

After the evidentiary hearings were concluded, and prior to the filing of opening and reply briefs, SDG&E notified the Administrative Law Judge (ALJ) and the parties on June 1, 2015 that SDG&E expected to file a motion to adopt a settlement agreement, and requested that the briefing schedule as established at the evidentiary hearings be delayed. Due to the upcoming filing date of the opening briefs, an e-mail ruling was issued on June 1, 2015 suspending the briefing schedule until further notice.

SDG&E and 16 other parties filed the "Joint Motion for Adoption of Settlement Agreement" (Settlement Motion) on June 3, 2015.[7] As described in more detail below, the Settlement Motion requests that the Commission approve the "Settlement Agreement Regarding San Diego Gas & Electric Company's Vehicle-Grid Integration Pilot Program Application, A.14-04-014" (Proposed Settlement), which was appended to the Settlement Motion as Attachment A. The Proposed Settlement is based on SDG&E's original VGI proposal as set forth in its application, but with modifications to address various parties' concerns

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[6] Testimony and cross examination exhibits were sponsored by the following parties: SDG&E, California Energy Storage Alliance (CESA), ChargePoint, Inc. (ChargePoint), Environmental Defense Fund (EDF), Federal Executive Agencies (FEA), Green Power Institute (GPI), Joint Minority Parties (JMP), KnGrid, LLC (KnGrid), Natural Resources Defense Council (NRDC), Office of Ratepayer Advocates (ORA), Plug In America (PIA), The Utility Reform Network (TURN), and Utility Consumers' Action Network (UCAN).

[7] The parties who filed the Settlement Motion, and who are signatories to the proposed settlement are the following: SDG&E; Alliance of Automobile Manufacturers; American Honda Motor Company, Inc.; California Coalition of Utility Employees; CALSTART; Center for Sustainable Energy; ChargePoint; EDF; General Motors LLC; GPI; KnGrid; NRDC; NRG EV Services LLC; PIA; Sierra Club; Smart Grid Services, Siemens AG (Siemens); and The Greenlining Institute.

about customer choice, market innovation, inclusion of disadvantaged communities, and other issues.

As provided for in Article 12 of the Commission's Rules of Practice and Procedure, various parties filed opening and reply comments on the Settlement Motion.[8]

Following the filing of opening and reply comments on the Settlement Motion, a ruling was issued on August 5, 2015 by the assigned Commissioner and ALJ which, among other things, directed SDG&E to clarify portions of the Proposed Settlement. The clarification was sought so as to better understand how the Proposed Settlement would be implemented. SDG&E responded to those questions on August 21, 2015.

The August 5, 2015 ruling summarized the positions of the parties who filed responses and replies to the Settlement Motion. The ruling denied the request of some of the parties to hold additional evidentiary hearings on the Proposed Settlement. In denying that request, the ruling stated:

> After reviewing the proposed settlement, the responses and replies to the motion to adopt the proposed settlement, and reviewing the testimony and transcripts from the evidentiary hearing, we conclude that no additional hearings on the proposed settlement are needed. The testimony and the [evidentiary hearings] have already addressed many of the issues that the parties have raised about SDG&E's underlying VGI proposal, and about the proposed settlement. 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. In addition, such hearings will require additional resources from both the parties and the Commission, which seem

[8] Those comments are summarized in the Position of the Parties section of this decision.

> unnecessary given the type of additional information that is being sought, and the information that is already in the record. (August 5, 2015 Ruling at 22-23.)

The August 5, 2015 ruling also directed the parties to file opening and reply briefs on whether the Proposed Settlement, SDG&E's original VGI proposal, or a variant of those proposals, should be adopted or not. The parties were also provided the opportunity to respond to SDG&E's August 21, 2015 responses in their opening and reply briefs.

Ten opening briefs were filed on September 4, 2015, and nine reply briefs were filed on September 18, 2015. This proceeding was submitted upon the filing of the reply briefs on September 18, 2015.

On October 7, 2015, Governor Brown signed Senate Bill (SB) 350 into law. (Statutes of 2015, Chapter 547, hereinafter Stats. 2015, Ch. 547.) The statutory provisions in SB 350 are effective January 1, 2016. SB 350 codified the Governor's call "for a new set of objectives in clean energy, clean air, and pollution reduction for 2030 and beyond." (Stats. 2015, Ch. 547, § 2(a).) SB 350 amended Public Utilities Code Section 399.11 to increase the amount of electricity generated and sold to retail customers from eligible renewable energy resources to 50% by December 31, 2030. SB 350 also added provisions to the Public Utilities Code to promote the widespread use of electricity as a transportation fuel in order to achieve the goals of the Charge Ahead California Initiative as set forth in Health and Safety Code (H&S) §§ 44258 and 44258.4.[9] (See Stats. 2015, Ch. 547, § 32.) As

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[9] H&S §44258.4(b) states in part: "The goals of this initiative are to place in service at least 1,000,000 zero-emission and near-zero-emission vehicles by January 1, 2023, to establish a self-sustaining California market for zero-emission and near-zero-emission vehicles in which zero-emission and near-zero-emission vehicles are a viable mainstream option for individual vehicle purchasers, businesses, and public fleets, to increase access for disadvantaged,

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added by SB 350, the Legislature found and declared the following in Public Utilities Code Section 740.12(a)(1):

> (C) Widespread transportation electrification requires increased access for disadvantaged communities, low- and moderate-income communities, and other consumers of zero-emission and near-zero-emission vehicles, and increased use of those vehicles in those communities and by other consumers to enhance air quality, lower greenhouse gases emissions, and promote overall benefits to those communities and other consumers.
>
> (D) Reducing emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.
>
> (E) Widespread transportation electrification requires electrical corporations to increase access to the use of electricity as a transportation fuel.
>
> (F) Widespread transportation electrification should stimulate innovation and competition, enable consumer options in charging equipment and services, attract private capital investments, and create high-quality jobs for Californians, where technologically feasible;
>
> (G) Deploying electric vehicles should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions.
>
> (H) Deploying electric vehicle charging infrastructure should facilitate increased sales of electric vehicles by making charging easily accessible and should provide the opportunity to access electricity as a fuel that is cleaner and less costly than gasoline or other fossil fuels in public and private locations.

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low-income, and moderate-income communities and consumers to zero-emission and near-zero-emission vehicles, and to increase the placement of those vehicles in those communities and with those consumers to enhance the air quality, lower greenhouse gases, and promote overall benefits for those communities and consumers."

Public Utilities Code Section 740.12 does not apply to this application because subdivision (d) of that code section provides:

> (d) This section applies to an application to the commission for transportation electrification programs and investments if one of the following conditions is met:
>
> (1) The application is filed on or after January 1, 2016.
>
> (2) The application is filed before January 1, 2016, but has an evidentiary hearing scheduled on or after July 1, 2016.

SDG&E's application was filed before January 1, 2016, and evidentiary hearings were held in 2015

2. Background of San Diego Gas & Electric Company VGI Pilot Program

This section summarizes SDG&E's VGI pilot program as described in SDG&E's application, its prepared testimony, and the testimony of the SDG&E witnesses at the evidentiary hearings.

SDG&E's application proposes the creation of a VGI pilot program to deploy EV charging infrastructure in its service territory, and to integrate that infrastructure into the electric grid through the use of an hourly time-varying rate. SDG&E's application proposes the widespread deployment of EV site installations, and charging stations, which would be integrated into the electric grid using a VGI rate.[10] SDG&E's application is the first of the applications from

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[10] In this decision, we refer to a "site installation" as the site location for the placement of an EV charging site. Each site installation can have more than one "charging station," which is the term we use to refer to the electrical cable and plug adapter that connects to the EV and dispenses electricity. Our use of the term "charging station" is consistent with how that term is defined in Civil Code Section 1947.6(c), which refers to a "charging station" to mean "any level of electric vehicle supply equipment station that is designed and built in compliance with Article 625 of the California Electrical Code, as it reads on the effective date of this section, and delivers electricity from a source outside an electric vehicle into a plug-in electric vehicle." The

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the three large electric utilities to request authority to establish and implement a pilot program to encourage PEV usage.[11]

SDG&E proposes in its application that it be authorized to own, install, and maintain EVSE and associated infrastructure at up to 550 sites to charge PEVs.[12] These sites are to be installed at multi-unit dwellings (MUDs) and at workplaces. According to SDG&E, these two locations are being targeted because they have a very low deployment of EV charging facilities, and cars are parked at these types of locations for long periods of time. Both of these location types provide the opportunity for grid-integrated charging during off-peak periods, and during the day when there is a high output of solar generation.

SDG&E contends that these two location types have the potential to increase EV ownership. MUDs comprise about 50% of the residential units in the greater San Diego region. SDG&E notes that of its employees who own or lease an EV, about 67% of those owners reported "that the presence of workplace charging influenced their EV buying or leasing decision and 79% said the presence of workplace charging will increase their EV miles driven per week."

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property owner or the lessor of the property, upon which the site installation is located is referred to as the "site host." The property upon which the site installation is located is sometimes referred to in this decision as the "VGI facility" or "facility site host." We note that the EV industry use of the term "charging station" differs from how we commonly refer to a single "gasoline station," and the "gasoline pumps" or "gasoline nozzles" that are situated at the gasoline station.

[11] Pacific Gas and Electric Company (PG&E) filed its EV application in A.15-02-009, and Southern California Edison Company (SCE) filed its EV application in A.14-10-014.

[12] In this decision, EVSE refers to "The conductors, including the ungrounded, 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." (Exhibit SDG&E-8 at 4, footnote 6; See also, Proposed Settlement, § II. Definitions; H&S Code §44268(d).)

(Exhibit SDG&E-2 at 6.) SDG&E also cites a February 2014 California PEV driver survey in support of the targeting of these two types of locations. The survey showed that of those who responded, 88% of PEV drivers live in a single-family detached home, 93% own their own homes, and 46% had access to workplace charging.

SDG&E's application proposes that these EV site installations offer a day-ahead time-variant hourly VGI rate. According to SDG&E, the VGI rate "will provide price signals that are intended to minimize [EV] charging impacts to SDG&E's system and local distribution capacity," and will "Encourage drivers to charge at times of grid surplus to efficiently integrate and manage charging loads with grid operation." (Exhibit SDG&E-3 at 1; Exhibit SDG&E-7 at 1.) SDG&E contends that the VGI rate is designed to alleviate the impact on the electricity grid by shifting usage to periods when there is a surplus of electricity such as excess solar generation in the afternoon, or during off-peak periods. In turn, this will reduce spending on the need for more infrastructure and power plants in order to meet the anticipated load growth from EV charging. The VGI pilot program is designed to "learn more about customers' EV charging behavior when exposed to hourly prices designed to encourage grid-integrated charging," and to explore whether "lower hourly prices encourage EV charging when available energy and capacity resources are more abundant," and whether "higher hourly prices discourage EV charging when these resources are scarcer." (Exhibit SDG&E-6 at 1.)

This VGI pilot program is based in part on SDG&E's experience with a VGI prototype site installation that was installed for the use of its employees in 2013. In 2014, the prototype site installation began using "an hourly VGI-like rate, with enabling charging technology and controls, to help to better

understand employee charging preferences." (Exhibit SDG&E-2 at 5.) SDG&E's VGI pilot program will use a VGI rate that will vary throughout the day to reflect the expected changes in energy prices and grid conditions. The PEV owners using these facilities will be sent day-ahead price signals to encourage PEV charging during off-peak periods. According to SDG&E, 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." (Exhibit SDG&E-1 at 11.)

SDG&E proposes that the sign-ups and contracting for the VGI pilot program take place over four years, and that the installations take place over a period of four to five years. SDG&E's goal is to deploy at a blend of workplace and MUD sites a total of 550 site installations and 5,500 charging stations in accordance with the following schedule.[13]

- Year 1 (2015) – 50 site installations of 10 charging stations each.
- Year 2 (2016) – 100 site installations of 10 charging stations each.
- Year 3 (2017) – 200 site installations of 10 charging stations each.
- Year 4 (2018) – 200 site installations of 10 charging stations each.

According to SDG&E, this time schedule and number of installations is designed to encourage MUD and workplace site hosts to sign-up quickly, which it believes will encourage program success. The actual number of EV charging stations will vary from site to site. SDG&E notes that if more charging stations are installed at a site, that this will allow more EV drivers to charge instead of

[13] SDG&E does not expect that every charging station will request or justify the need for 10 charger units. Instead, the number of charger units at each charging station may differ depending on such things as space availability, and anticipated demand for EV charging.

having to wait for an EV charging station to become available. The deployment of the site installations and charging stations would be subject to the $103 million cap that SDG&E requests.

SDG&E requests that the costs of this program be capped at $103 ($102.753) million, and that SDG&E be allowed to recover these costs from its ratepayers through the establishment of a two-way interest-bearing VGI Balancing Account (VGIBA). SDG&E proposes that the VGIBA record the authorized revenue requirement and the actual operation and maintenance (O&M) and capital-related costs. During the five-year installation period, SDG&E proposes that any over/under collection be carried forward to the following year until the end of the installation period. Under SDG&E's VGI program, approximately $59.218 million in capital expenditures would be added to ratebase once the EV charging infrastructure becomes used and useful.

SDG&E contends that the size of the VGI pilot program is appropriate because it will support a robust study sample. Since the VGI rate is influenced by changes in the price of energy, and system and circuit conditions, the large number of EV site installations and charging stations are needed in order to obtain a reasonably strong statistical representation of the SDG&E circuits. The various circuits have different circuit characteristics including the following: the number of residential and commercial customers on each circuit; the amount of solar generation on each circuit; the load factor of the circuit; and the peak demand hours of the circuit. These circuit characteristics are expected to affect the calculation of the VGI rate's hourly prices across the more than 1,000 distribution circuits.

SDG&E proposes that to the greatest extent possible, it will contract with third parties to build, install, operate, and maintain the EV charging facilities

under a service level agreement. The charging facilities are to be built, installed and maintained in accordance with SDG&E's VGI specifications and supervision. SDG&E contends that the maintenance of the EV charging facilities will ensure that the EV charging stations remain in working order.

SDG&E proposes to use a two-step process to recruit qualified third parties to build, install, operate, and maintain the EV charging facilities. The first step will be a pass/fail round utilizing a Request for Information (RFI) process. Under the RFI process, a potential bidder will have to pass all of the criteria necessary to participate in the VGI pilot program. The second step is the Request for Proposal (RFP) process. Under the RFP process, a potential bidder will be scored based on criteria that focus on the VGI technical and operational specifications. Contracts will be awarded to multiple bidders who have met the criteria.

As for the site locations of these facilities, SDG&E plans to contract with those MUD and workplace site hosts who want to participate in SDG&E's VGI pilot program. Potential site hosts would be required to grant easements to SDG&E. SDG&E proposes under its pilot program to provide the site hosts with "no-cost charging equipment and installation, while the potential hosts provide a charging site location and appropriate parking for EV customers." (Exhibit SDG&E-2 at 2.) Under SDG&E's VGI pilot program, all of the EV charging infrastructure located at each site installation would be owned by SDG&E.

In selecting a site location for a site installation, SDG&E will solicit interest from potential MUD and workplace sites. SDG&E plans to evaluate and prioritize the site location using the following site selection criteria:

- Date of indicated interest (first-in-line priority);
- Current and expected volume of EV drivers;

- Number of VGI charging stations desired;
- Type of VGI installation (MUD, workplace);
- Nearby transformer available capacity;
- Distance between transformer and new service point;
- Site conditions related to construction feasibility (i.e., trenching surface, EVSE mounting surface, condition of facility);
- Land and property ownership;
- If leasing, term and conditions of lease; and
- Existing/available Americans with Disabilities Act (ADA) accessible parking.

After the VGI equipment is installed at a location, SDG&E will then offer charging services to the customers who use these facilities under SDG&E's VGI rate. SDG&E proposes to directly bill the customers who use the VGI site installations.

SDG&E considers its VGI program to be a pilot project because of the following: the unique VGI rate; the targeting of MUDs and workplaces only; and the four year enrollment period for the VGI program.

Under the VGI pilot program, the EV customers of SDG&E will have access to a technology platform that will allow an EV customer on the VGI rate to enter preferences for energy price and quantity (hours) into a mobile phone application or on a website. These preferences will then be used by SDG&E's VGI Service Pricing and Billing system to determine the parameters of the VGI rate, such as the maximum hourly price the EV customer is willing to pay, the duration of time the customer plans to be at the VGI charging facility, and how much energy the EV customer needs. SDG&E will then provide the EV customer with hourly pricing on a day-ahead basis. These day-ahead hourly VGI rates "will correspond with the expected changing hourly price of electricity and will

be designed to encourage EV charging to occur at times of the day that will minimize incremental peak loads on the electrical distribution system, integrate high levels of renewable energy use, and avoid charging on system peaks." (Exhibit SDG&E-2 at 3.) SDG&E's VGI customers will then be able to access their individual hourly and total charges after each charging session, as well as their historical usage.

Most of the costs of SDG&E's pilot program are attributable to the five main cost components of installing a VGI system. According to SDG&E, these following costs are likely to vary from site to site depending on the work needed and conditions at each site:[14]

- The first cost component is the engineering design and permitting of the selected site host.
- The second cost component is the new electric service that will be separately metered by SDG&E. As part of the new electric service, there "will be a pad-mounted meter pedestal and breaker panel with a new meter, all the necessary trenching, conduit, wire, and connectors from the transformer to the new meter pedestal, and a refill/repair of the trench." (Exhibit SDG&E-2 at 11.) SDG&E estimates that up to 25% of these new electric services will require a new transformer.
- The third cost component is the EVSE and installation costs. Under SDG&E's proposal, each site host is to consist of ten separate EV charging stations. Depending on the needs of the site host, EV charging load opportunities, and available electrical capacity, SDG&E plans to install a blend of Level 1 and Level 2 charging stations.

[14] The individual costs are described in Exhibit SDG&E-2, while Exhibit SDG&E-4 puts the costs into an annual revenue requirement. The $103 million mentioned earlier is the proposed revenue requirement over the life of the project

- The fourth cost component is the access control equipment and installation costs. The access control equipment will consist of a pad-mounted control kiosk which will contain the hardware necessary to activate a charging session for each charger port. The kiosk will have a meter to track individual customer usage for billing purposes, and this information will be sent daily to a data collection system for subsequent billing purposes.
- The fifth cost component is compliance with the ADA in terms of parking modifications and signage.

In addition to the site costs, SDG&E estimates that the one-time VGI information technology costs will run about $1.564 million. This cost is composed of software development and hardware costs, and phone and web applications.

SDG&E also points out that there will be O&M costs associated with the VGI pilot program. SDG&E estimates that these costs will consist of the following: replacement costs for charging equipment and cables; access control consisting of wireless service fees; customer engagement costs; support materials for customer engagement; billing system integration costs; customer support and billing integration services; the cost of a full-time employee to perform circuit level load modeling for the VGI rate calculations; and the cost of evaluating the deployment of the VGI pilot program and load impacts.

SDG&E estimates that under its VGI pilot program proposal, the first year bill impact would be approximately 18 cents for a typical residential customer using 500 kilowatt hours per month in both the Inland and Coastal climate zones, which is approximately at 0.02% increase for a typical Inland residential customer, and a 0.01% increase for a typical Coastal residential customer.

Regarding the management of the VGI pilot program, SDG&E will be responsible for the overall management of the program. The two key areas of

responsibility for SDG&E will be customer contact, and back-office support. The back-office support consists of the VGI pilot program billing function and support, which is responsible for making the EV customers aware of the VGI unit pricing, and the total cost of EV fueling as presented in the customer's bill. SDG&E plans to contract with third parties to build, install, operate, and maintain the EV charging facilities. The relationship with the third parties will be managed through a service level agreement between SDG&E and the third party.

To evaluate the cost effectiveness of the VGI pilot program, SDG&E proposes that a Research Plan be put into place to evaluate the pilot program. The pilot program is intended to result in increased electricity use and a decrease in fossil fuel use. According to SDG&E, the evaluation methodology will quantify the costs and benefits of those impacts. The evaluation methodology that SDG&E proposes to be used is based on an analytical model developed at SDG&E's request. SDG&E contends that the model uses cost effectiveness tests that are familiar to the Commission. SDG&E contends that the evaluation results "may provide policy makers with insights about various VGI solutions in the SDG&E EV charging market," and may also "provide policy makers with a method to evaluate the benefits of the VGI Pilot Program in general and the VGI Rate in particular." (Exhibit SDG&E-6 at 2.)

The Research Plan that SDG&E proposes consists of data collection and analysis. SDG&E proposes that the data collection begin the first year of the pilot, that load impact analysis and reporting begin after two years of

implementation, and that a cost effectiveness analysis be performed 18 months after the final VGI facility is installed.[15]

Under SDG&E's Research Plan, the following data collection and analysis is to take place: actual VGI installation costs; actual VGI operating costs; charging load profiles; estimated percentage of EV purchases related to the VGI pilot program; estimated VGI pilot program-related increases in ZEV miles traveled per EV; EV customer input on the VGI mobile and web applications, the VGI rate and overall convenience and ease of use of the VGI facility; VGI kilowatt hour (kWh) usage by price, over time; where available, EV related kWh usage at home will be reviewed with VGI kWh usage at workplace VGI facilities; and where possible, determine whether EV time of use (TOU) adoption has increased as a result of the VGI pilot.

SDG&E has already modeled EV charging in SDG&E's service territory under two sets of hypothesized scenarios. The first scenario includes an EV charger deployment with the pilot program using a VGI rate. According to SDG&E, the "VGI Rate encourages grid-integrated EV charging based on the dynamic hourly price that reflects grid supply and demand conditions." (Exhibit SDG&E-6 at 5.) The second scenario also includes EV charger deployment, but is deployed by a non-utility entity with EV charging priced as a flat fee. Although these two scenarios are illustrative only, SDG&E states that the results "show that the estimated Electric Supply costs for the SDG&E VGI Rate scenario are less than the Non-utility Flat Fee scenario by $7.5 to

[15] If after two years of implementation, the VGI pilot program produces load impacts, load impact studies will be conducted according to the load impact protocols adopted in D.08-04-051.

$20.2 million [Net Present Value] over the sensitivity ranges." (Exhibit SDG&E-6 at 35.) SDG&E further states that the illustrative results indicate that the VGI pilot program will provide net benefits, and "is beneficial to SDG&E ratepayers, EV customers, and the SDG&E service territory region in general." (Exhibit SDG&E-6 at 37.)

According to SDG&E, the data from SDG&E's pilot program and VGI rate will "help inform VGI policy development, create and expand EV charging solutions and benefit the EV charging market and SDG&E customers." (Exhibit SDG&E-1 at 2.) This data can help inform the Commission about the following: the relationship between pricing and charging behavior in the workplace and at home; whether EV charging customers can be encouraged through pricing to charge at a grid-friendly time of day while accommodating the needs of the EV charging customers; whether the pricing and availability of charging facilities will increase the miles driven per EV customer; and whether utility management of EV charging to non-peak periods can minimize or eliminate pressure on grid capacity, and take advantage of available energy supply.

In addition, SDG&E contends that the VGI pilot program will provide information on how effective PEV batteries and grid-integrated charging can provide energy storage support to the electric grid. According to SDG&E, the PEV battery storage can help reduce "system ramping needs by building loads during the lowest demand periods; providing load to absorb low cost energy supply; and avoiding local distribution impacts by minimizing load when local distribution system is near capacity." (Exhibit SDG&E-1 at 13.)

The VGI pilot program will also help position the market for future vehicle-to-grid (V2G) applications pursuant to the February 2014 California

Independent System Operator (CAISO) VGI roadmap, and the Energy Division's October 2013 VGI white paper.

SDG&E contends that its application is an innovative proposal that will allow the EV market to grow. This will take place through the offering of the hourly time-variant rate, and increased business opportunities and growth for businesses that provide support services to EV customers. According to SDG&E, it has "been a very committed supporter of Electric Vehicle Service Providers (EVSPs) that have installed residential, public and workplace charging facilities in the SDG&E service territory." (Exhibit SDG&E-2 at 6.)

SDG&E contends that its pilot program is supported by a number of different California policies which encourage the environmentally beneficial use of electricity as a transportation fuel. These policies include the following: Governor Brown's ZEV Action Plan; the opportunity to integrate renewable energy resources with EV charging; policies regarding energy storage, AFVs, and the Energy Division's VGI white paper; the Legislature's enactment of SB 17 (Stats. 2009, Ch. 327), which codifies state policy to encourage smart grid modernization and usage; and D.12-12-033, which adopted the Cap-and-Trade Greenhouse Gas (GHG) Allowance Revenue Allocation Methodology and the State Air Resources Board's (ARB) Cap-and-Trade Auction Proceeds Investment Plan. SDG&E also states that the VGI pilot program and the VGI rate are consistent with Public Utilities Code Section 8360(h) that customers should have timely information and control options, and that rates should be reasonable. In addition to testing the VGI rate at one of SDG&E's PEV site installations, SDG&E has been testing how driver decisions about EV charging time change in response to varying price ratios in different TOU periods.

As part of its application, SDG&E also requests that the Commission make a determination that SDG&E's pilot program be found eligible, pursuant to D.12-12-033, to receive funding from the revenues generated by the sale of the cap-and-trade allowances consistent with Public Utilities Code Section 748.5(c). In order to receive such a designation, SDG&E contends that D.12-12-033 requires the Commission to determine that the proposed project will have a goal of reducing GHGs, and that it be administered by the electrical corporation and is not otherwise funded by another funding source.

3. Background of Proposed Settlement

This section of the decision describes the Proposed Settlement. The Settlement Motion requests that the Proposed Settlement, which is appended to the Settlement Motion as Attachment A, be approved and adopted. The Proposed Settlement is based on, and would adopt with certain modifications, SDG&E's original VGI proposal as set forth in its application.

The Proposed Settlement consists of a preface, and the following sections: Introduction and Background; Definitions; Settlement Agreement Provisions; and Additional Terms and Conditions.

As described in the Settlement Motion and the text of the Proposed Settlement, the Proposed Settlement is based on 11 Guiding Principles that are to guide the VGI program implementation, and the 16 modifications made to SDG&E's original VGI proposal. These Guiding Principles and the modifications are described in the "Settlement Agreement Provisions" section of the Proposed Settlement. The Guiding Principles are as follows:

1. Must support the Governor's and California state goals to: achieve installation of grid-integrated infrastructure to support 1 million ZEVs by 2020; accelerate the adoption of 1.5 million

ZEVs by 2025, and support clean air and climate change objectives;

2. Must be structured to provide net benefits to all ratepayers;
3. Must protect ratepayers by ensuring that assets continue to be used and useful;
4. Must provide EV drivers the opportunity to maximize fuel cost savings relative to conventional transportation fuels;
5. Must provide equitable deployment of services to all ratepayers, including statutory requirements and directives to serve disadvantaged communities and increase access to clean transportation;
6. Must provide customer choice;
7. Must support broad-based investment in EV charging equipment and services by public, private and utility entities and avoid anticompetitive impacts on the markets for EV charging equipment and related services;
8. Must incorporate learning-by-doing and make adjustments to the VGI pilot program as needed;
9. Must provide data to help inform state policy;
10. Must utilize rate design and load management practices to facilitate the integration of renewable energy resources, as well as deliver other grid benefits; and
11. Must align with SDG&E's Diversified Business Enterprise (DBE) goal of 40% and request subcontractors to provide proposals in support of the 40% goal.

As part of the Proposed Settlement, the settling parties have agreed to 16 modifications to SDG&E's original VGI proposal. According to the Proposed Settlement, these "modifications to SDG&E's proposal are desirable to incorporate the views of stakeholders and to support the Governor's 2020 grid-integrated infrastructure and 2025 vehicle deployment goals, as well as

California's clean air and climate change objectives." (Proposed Settlement at 2.)

These 16 modifications are summarized as follows:

- The VGI facility site hosts will have the choice of two billing options: (1) the VGI rate offered directly to the PEV driver (VGI Rate-to-Driver); or (2) the VGI rate offered to the site host (VGI Rate-to-Host).
- If the VGI facility site host opts to receive the VGI Rate-to-Host pricing plan, the site host or its selected vendor, will be required to submit to SDG&E the load management tactics it will implement at its VGI facility, including the incremental costs and equipment required to implement the load management tactics, the prices or fees that it intends to levy on VGI facility users, and any vehicle or EVSE communication systems necessary to implement the load management tactics. SDG&E recognizes that the site hosts on the VGI Rate-to-Host pricing plan may want the flexibility to change prices or fees over time. If a site host does not submit a load management plan that is consistent with the Guiding Principles, the site host will be ineligible to participate until SDG&E determines that the site host's load management plan is consistent with the Guiding Principles. If a VGI facility site host opts for the VGI Rate-to-Host pricing plan, the site usage patterns will be monitored (just as they would for a site host that opts for the VGI Rate-to-Driver pricing plan), as well as tracking of the site host determined prices or fees.
- The VGI facility site hosts will choose EVSE and related services from a list of vendors prequalified by SDG&E to provide such services for the VGI program. SDG&E's VGI program does not include the installation of direct current (DC) fast charging equipment.
- SDG&E will assess a VGI program participation payment on VGI facility site hosts that elect to participate in the program. The participation payment is to be waived for VGI facilities located at sites in disadvantaged communities. SDG&E is to file for approval of the proposed participation payment with a Tier 2 advice letter, subject to protest by any party, after consulting with the VGI Program Advisory Council (PAC). 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.

- After the first year of participation, the VGI facility site host shall have the annual option to switch VGI rate plans (i.e., the VGI Rate-to-Driver pricing plan or VGI Rate-to-Host pricing plan). In the event that the ownership of control of the VGI facility site changes, the new site host has the option to select a VGI rate plan, consistent with current utility tariff and billing practices.
- Third party vendors of EVSE and services pre-qualified by SDG&E for the VGI program may offer and contract with the VGI facility site host to provide any additional or complementary services, as long as these services do not interfere with the objectives of the VGI program. Specifically, such services may not include activities, agreements, arrangements, policies or procedures that inhibit the ability of the EV driver or VGI facility site host to respond to the pricing signal of the VGI rate. The costs of these additional services will not be borne by the VGI program, unless they are complementary services necessary to support the VGI program objectives. As such, SDG&E will encourage discussions during the RFI process that allow vendors to explore the funding of innovative opportunities that may exceed the minimum implementation requirements of the VGI program, and have the potential to enhance and improve the grid-integration outcomes of the VGI program overall.
- The third party vendors pre-qualified by SDG&E for the VGI program, in coordination with SDG&E customer contact personnel, will market and sign-up potential VGI facility site hosts to participate in the VGI program in the two targeted customer segments of MUDs and workplaces, and in any other customer sub-segments identified in the Proposed Settlement (e.g., disadvantaged communities, and housing or sites that support car-sharing entities). Responses to the RFP should reflect this requirement. Competitively neutral descriptions of the VGI rate plans will be prepared by SDG&E and shall be used by third parties. 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. To create and maintain a positive customer experience with the VGI program, the third parties will be required to describe how they will share the initial and ongoing customer relationships with SDG&E and the VGI facility host and EV driver. Vendors will be permitted to contract directly with site hosts for services as long as these services do not interfere with the objectives of the VGI program.

  - SDG&E will solicit participation from multiple third parties to provide equipment, install, maintain and operate the VGI system in a manner consistent with SDG&E's supply management policy and procedures as outlined in Exhibit SDG&E-2 at 8. Construction, installation and maintenance contractors will have Electric Vehicle Infrastructure Training Program (EVITP) certification, and SDG&E will require that all construction, installation and maintenance of VGI facilities that is not performed by employees of SDG&E shall be performed by contractors signatory to the International Brotherhood of Electrical Workers (IBEW) who hold a valid C-10 contractor's licenses, as defined in the governing labor agreement between SDG&E and the IBEW.

- The VGI program will be included within SDG&E's companywide DBE goal of 40%. The RFP and contract will contain a DBE subcontracting plan, which requires the bidder/contractor to list its expected annual DBE spend and list any subcontractors it plans to use to achieve its DBE goal. Bidders will be requested to provide proposals in support of SDG&E's 40% goal.

- At least 10% of the VGI facilities will be installed in disadvantaged communities as identified by the California Environmental Protection Agency's CalEnviroScreen tool developed pursuant to SB 535 (Stats. 2012, Ch. 830.) SDG&E will work with community based organizations (CBOs) to assist with education and outreach, as well as pre-qualifying and signing-up hosts for participation in the VGI program. In addition, SDG&E

will: scale up deployment of VGI facilities at qualified locations above the 10% target (in line with the screening criteria identified in Exhibit SDG&E-2 at 7) to support accelerated EV adoption in disadvantaged communities; and complement and coordinate with federal, state, and locally funded programs, such as those being developed by the ARB pursuant to SB 1275 (Stats. 2014, Ch. 530), that are expected to grow the demand for EVs in disadvantaged communities, such as EV car-sharing services.

- All contractors shall have hiring goals to support opportunities to increase hiring from disadvantaged communities, including first-source hiring and targeted-hiring goals for projects in disadvantaged communities. The PAC will also monitor and provide recommendations, including specific numerical targets for meeting hiring targets, to contractors or subcontractors associated with the increase of hiring from disadvantaged communities, including best practices for hiring.
- SDG&E will solicit participation of a broad and diverse stakeholder advisory group known as the PAC in planning and implementing the VGI program following its approval by the Commission. The PAC will include representatives from local and state government (including representation from the Energy Division), industry, labor and other stakeholder participants, ratepayer and environmental advocates, and representatives of disadvantaged communities. The details regarding the roles, responsibilities and frequency of meetings are described in Appendix A of the Proposed Settlement.
- With guidance from the PAC, SDG&E will make program changes as needed during the course of the VGI program in line with the Guiding Principles. The settling parties recognize that certain changes may require filings that require Commission approval. Program 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 program change are identified in Exhibit SDG&E-6 at 35, and will be supplemented pursuant to the Proposed Settlement as described in Appendix B of the Proposed Settlement. 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 program changes.

- 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. SDG&E reserves the right to make exceptions as conditions of the VGI program warrant. Minimum acceptable metering tolerance is anticipated to be 1% and if needed to meet meter testing and re-calibration requirements, removal (and replacement) of the entire EVSE will be acceptable.
    - The VGI bills will be sent directly to the SDG&E EV driver receiving the VGI rate, or to the VGI facility site host receiving the VGI rate under the VGI Rate-to-Host pricing plan. Data will be provided to SDG&E by the qualified third party to SDG&E's specifications in a manner acceptable to both parties to allow for this billing. Billing specifications are to send the VGI rate on a day-ahead basis, allow customer (site host or EV driver) to set charging needs, meet these charging needs, collect usage data and send data to SDG&E for billing processing. For exceptional instances when a non-SDG&E customer is allowed by the VGI facility site host at a site that is on the VGI Rate-to-Driver pricing plan to use the VGI facility for vehicle charging temporarily, the site host will have the option to be the VGI rate customer (i.e., enrolled in the VGI rate), and will be billed for this usage, similar to how the site host is billed under the VGI Rate-to-Host pricing plan.
- Unless directed otherwise by the Commission, as originally proposed SDG&E will cease marketing the VGI program and will not sign-up any additional sites as of the end of the fourth year of VGI program implementation, except for the following limited exception. The original proposal is modified for potential VGI facilities sites with documented plans for new construction or major tenant improvements. For such sites the VGI facility installation period may extend beyond the fifth year of the VGI program proposed installation period if the site host commitment is made by the end of the 4th year of VGI program

implementation. SDG&E will allow for flexibility in the design of the VGI facility configuration to meet the needs of a site host. The costs of any incremental configuration needs will not be funded within the VGI program. Implementation and site screening process will accommodate site host construction, tenant improvement timelines, and situational needs. The settling parties acknowledge that some sites may be rejected due to physical limitations, unusually large construction costs and/or level of difficulty.

- As stated throughout SDG&E's VGI program proposal, SDG&E will contract with one or more third parties to provide operating systems and related hardware to control EVSE networks to implement the VGI system. It is SDG&E's aim to specify "what" is required to be achieved per the objectives of the VGI Program, and not "how" these requirements are met. This is intended to foster innovation and enhancement to the customer's experience. Although described in Exhibit SDG&E-2 (Schimka), further clarification of the RFI and RFP processes are described in Appendix C to the Proposed Settlement.
- In order to provide an assessment of the VGI program consistent with the Guiding Principles, 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 of the Proposed Settlement, and a description of any program changes implemented by SDG&E prior to the date of the report. Parties will be permitted to file comments and reply comments on the report.

The Additional Terms and Conditions section of the Proposed Settlement cover three topics. The first topic addresses "Performance" of the settling parties with respect to the Proposed Settlement. The second topic provides that the Proposed Settlement is not intended to be precedent for any other proceeding, and that each settling party "expressly reserves its right to advocate, in other current and future proceedings, or in the event that the Settlement Agreement is

rejected by the Commission, positions, principles, assumptions, arguments and methodologies which may be different than those underlying this Settlement Agreement…." (Proposed Settlement at 9.) The third topic addresses the "Indivisibility" of the Proposed Settlement, and "General Provisions" of the Proposed Settlement.

4. Position of the Parties

This section describes the positions of the parties before the Proposed Settlement was entered into, and the positions that the various parties have taken after the Proposed Settlement was reached. The parties' positions are taken from their testimony, if they sponsored any, and from the various pleadings that were filed in connection with SDG&E's original proposal and the Proposed Settlement. In the sub-sections below, we first describe the positions taken by SDG&E and the settling parties, followed by the positions of the non-settling parties.

The various parties' positions are summarized below to provide the reader with some perspective and context in reading the discussion section of this decision.

4.1. Settling Parties

4.1.1. SDG&E

Prior to entering into the Proposed Settlement, SDG&E proposed that the Commission adopt its VGI pilot program as set forth in its application, and in the testimony of its various witnesses. The VGI pilot program, as proposed by SDG&E, calls for a pilot program, to be initiated over a four year period, for up to a total of 550 VGI site installations and 5500 VGI charging stations. SDG&E plans to target workplaces and MUDs to locate the site installations. These two types of sites are being targeted by SDG&E because (1) they offer long term parking so that EV owners can charge their vehicles, and provide opportunities

for grid-integrated charging; and (2) these two types of locations are underserved by EV charging infrastructure. The total amount being requested by SDG&E is $103 million over a 22-year time horizon. Under SDG&E's original position, all of the site installations and EVSE equipment would be built and installed by SDG&E or its contractors, and all of the EVSE at all of the site installations would be owned by SDG&E. The only charging rate plan available to an EV driver using these site installations is a VGI rate that the EV driver is directly billed for by SDG&E.

SDG&E's present position advocates the adoption of the Proposed Settlement as reasonable and in the public interest. As part of the modifications agreed to by the settling parties in the Proposed Settlement, SDG&E has agreed to a more flexible approach as to what equipment can be installed, who can make use of the VGI rate, and the additional services a site host can use. As described in the summary of the Proposed Settlement, SDG&E now agrees to allow the MUD and workplace site hosts to have the choice of either the VGI Rate-to-Driver rate, or a VGI Rate-to-Host rate. Site hosts will be able to select the EVSE and the service they want from pre-qualified EVSE vendors. Since the Proposed Settlement is based on SDG&E's original VGI proposal, as modified by the Proposed Settlement, the amount being requested by SDG&E remains the same, as does the number of proposed EV site installations and EV charging stations. SDG&E contends that the modifications to SDG&E's original proposal, which resulted in the Proposed Settlement, address some of the settling parties' concerns about customer choice, market innovation, inclusion of disadvantaged communities, and other issues.

SDG&E contends that its original VGI proposal, and the Proposed Settlement (which is based on SDG&E's original VGI proposal), are unique

because it integrates and manages the charging of EVs with SDG&E's electric grid to reduce the impact on grid operation and infrastructure costs. SDG&E plans to offer the VGI rate at the site installations, which is a day-ahead dynamic hourly price for electricity to charge EVs.[16] That hourly price will reflect "changes in energy prices and grid conditions throughout the day, and accounts for loading on individual distribution circuits, as well as the loading on the overall system." (SDG&E, September 4, 2015 Opening Brief at 3.) According to SDG&E, the VGI rate is designed to encourage and integrate EV charging during off peak periods, and during times when the availability of renewable energy resources is plentiful. By charging at these times, SDG&E believes that this will reduce the need for costly system upgrades and new fossil generation. SDG&E contends that no other utility is proposing a rate to encourage the integration of an EV charging with the operation of the grid.

As noted in its testimony, SDG&E contends that the state's push toward more renewable energy will result in increased solar generation. This increase, due in part to solar generation, will produce more energy during the afternoon hours, when SDG&E expects marginal energy prices to be lower. Since solar generation is a renewable resource, this generation must be accepted into the grid regardless of price. SDG&E's VGI proposal "is designed to improve system efficiency by encouraging customers through price signals to charge vehicles when market prices are low, thereby avoiding charging during times of system demand peaks." (Exhibit SDG&E-1 at 6.)

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[16] Under the Proposed Settlement, the site host has the option of selecting a VGI Rate-to-Driver, or a VGI Rate-to-Host. If a site host decides to receive the VGI Rate-to-Host, the site host or its selected vendor will be required to submit the load management tactics it plans to use, as well as the prices or fees it intends to levy on the EV drivers.

In order to support the goal of having more EVs on the road, SDG&E contends that much more EV charging infrastructure needs to be deployed at both public and private sites. Approval of the Proposed Settlement would support that goal through the targeting of MUDs and workplaces for the installation of EV charging infrastructure. Both of these kinds of site locations are currently underserved by the EV market. These two types of locations currently comprise 15% of the total non-residential EVSE units in SDG&E's service territory.

SDG&E maintains that the size of the Proposed Settlement, and its characterization that this is a pilot program, are appropriate in order to test the VGI rate, to support the state's goals, and to generate economies of scale.

With respect to testing the VGI rate, SDG&E contends that the number of site installations and charging stations is needed to support a robust study sample to ensure a strong statistical representation of SDG&E circuits, and to test SDG&E's cost effectiveness methodology. SDG&E contends that the larger program size will likely lead to lower prices for EVSE, and more innovation among the vendors. The size of the VGI program will also provide funds for ongoing maintenance for the EV charging stations, which will ensure that the EV charger ports are well maintained and in operational order. In addition, with the VGI Rate-to-Host option, SDG&E contends that the program size needs to remain as proposed in order to generate sufficient data on this rate option and the cost-effectiveness model.

SDG&E contends that if the Proposed Settlement is reduced or phased, as some opponents of the Proposed Settlement recommend, that this will nullify the value of the data collection and cost-effectiveness testing because the reduced duration and number of charging stations will not provide meaningful data

collection and analysis of the value of the VGI program, especially that of the VGI rate and the charging technologies. In addition, SDG&E contends 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." (SDG&E, September 18, 2015 Reply Brief at 3.)

SDG&E also points out that the Proposed Settlement includes provisions that will benefit disadvantaged communities. As described earlier and in the Proposed Settlement, these include the following: (1) at least 10% of the VGI facilities will be installed in disadvantaged communities; (2) all contractors shall have hiring goals to support opportunities to increase hiring from disadvantaged communities; (3) the PAC will include representatives of disadvantaged communities; (4) the participation payment for site hosts will be waived for VGI facilities at sites located in disadvantaged communities; and (5) third party vendors pre-qualified by SDG&E for the VGI program will include disadvantaged communities in their efforts to market and sign-up potential facility site hosts.

SDG&E responded to some of the points raised by the other parties in its reply comments to the Settlement Motion, and in its reply brief.

SDG&E contends that the Proposed Settlement resolves concerns over competitive concerns. SDG&E points out that several entities who actively participate in the EV charging market support the Proposed Settlement. SDG&E further notes that the original concern over a site host not being able to select equipment and service options have been resolved in the Proposed Settlement through the competitive procurement provisions listed in Section III of the Proposed Settlement, and the VGI Rate-to-Host Option. SDG&E further

contends that as the demand for PEVs grows in SDG&E's service territory, that this will lead to an increase in demand for EV charging services at non-utility owned locations.

SDG&E also points out that substantial and urgent involvement by the utilities is necessary in order to reach the state's climate change objectives, and to reach the ZEV deployment goals. In order to meet these goals and objectives, SDG&E contends a lot more EVSE deployment is needed at public and private sites, and that the utilities need to be involved in these efforts.

SDG&E opposes the recommendations to reduce the size or to phase in SDG&E's VGI program. SDG&E contends that in order to measure the impact of the VGI rate, at least two years of data collection will be required. A reduced or phased-in program will not provide that opportunity because of the time it takes to implement all of the start-up steps and processes of the VGI program, for EV charging customers to use the VGI rate, and to measure whether the VGI pricing responses can be sustained over time. SDG&E contends that the VGI rate is designed to collect charges over a full year of service so that the EV charging customers are exposed to "high cost/low capacity hours, distribution circuit peak hours, and renewable oversupply hours." (SDG&E, September 18, 2015 Reply Brief at 5.) If the data is limited, it would not be suitable for a statistically valid representation of the VGI program performance. SDG&E contends that this data will allow the Commission and other state agencies to study EV market development, including the impact on non-VGI program EVSPs.

The amount of data and experience with the VGI rate also relates to when SDG&E should submit a report on the progress of the VGI pilot program. SDG&E opposes the shortened reporting timeframe that ORA and CESA recommend, and contends that neither ORA or CESA have specified why the

interim progress report and the comment process provided for the Proposed Settlement is insufficient. If the VGI pilot is reduced or phased, or if the report is to be issued sooner, SDG&E contends this will reduce the amount of data that can be analyzed, and may result in an inaccurate evaluation of the VGI pilot program.

In addition, SDG&E contends that if the recommendations to phase in the VGI program are adopted, this may discourage vendor participation in the program because potential vendors will need to decide whether it is worthwhile to participate, and will weigh their investment, development, and manufacturing costs over the reduced size of the VGI program. In addition, a reduced or phased VGI program will reduce the RFP process to a one-time event, instead of the open and ongoing RFP process contained in the Proposed Settlement. If the VGI program is reduced or phased, SDG&E contends that this may increase the unit cost, and reduce innovations regarding EV charging.

SDG&E contends that the concerns over the size of, and duration of, the VGI program, can be addressed through the Proposed Settlement's clauses regarding program changes that the PAC may recommend during the course of the VGI program, and the interim progress report that is to be provided two years after the launch of the program. (See Proposed Settlement, Section III, Paragraphs L and P.)

Some of the parties recommend that SDG&E should not be allowed to own both the site installations and charging stations, and that SDG&E should only install make ready stubs. SDG&E contends that the ownership of the EVSE facilities by the utility is critical. If the EVSE is owned by third parties, this could lead to a failure by the third party to maintain the EVSE, which could lead to stranded infrastructure. In addition, SDG&E contends that utility ownership is

needed because the VGI Rate-to-Driver option will require the use of a meter that will be used for billing purposes. In addition, utility ownership of the EVSE metering components is needed in order monitor the performance of the VGI facility, and to collect and send billing and performance data to SDG&E.

SDG&E contends that a common framework of make ready installations should not be uniformly applied to SDG&E, SCE, and PG&E. Instead, the use of different approaches by the three utilities, and the comparison of the results of the VGI program to the other utility approaches, will help guide future Commission actions.

With respect to the arguments of TURN and UCAN that the VGI pilot program is not cost effective, SDG&E contends that the illustrative cost-effectiveness modeling that it performed suggests that the VGI program can result in net benefits to both ratepayers and to society.

With respect to the Ratepayer Impact Measure (RIM) test, SDG&E notes that since the Commission has not required this test for energy efficiency, demand response, or distributed generation, it should not require this test for the VGI program. SDG&E also notes that at page 11 of the scoping memo and ruling in R.13-11-007, it stated that the pilot programs initiated as a result of the OIR would not be required to demonstrate positive cost-benefit ratios as a condition for approval.

JMP recommends that funding programs to subsidize EV purchases be established. SDG&E contends that it is in the business of selling electricity at retail, and that the Commission should ignore JMP's recommendation for SDG&E to become involved in the sale and financing of EVs, or to conduct research in that area.

In response to TURN's arguments concerning SDG&E's Electric Rules 15 and 16, and Public Utilities Code Section 783, SDG&E contends that those provisions do not apply. SDG&E contends that it is applying for a pilot program specific to grid-integrated EV charging facilities. SDG&E contends that those provisions cited by TURN are not applicable because the facility is to be owned end-to-end and operated by SDG&E as a separate service point, with an easement granted by the site host.

4.1.2. Other Settling Parties

In addition to SDG&E, the other settling parties to the Proposed Settlement are the following: Alliance of Automobile Manufacturers; American Honda Motor Company, Inc.; California Coalition of Utility Employees; CALSTART; Center for Sustainable Energy; ChargePoint; EDF; General Motors LLC; GPI; KnGrid; NRDC; NRG EV Services LLC; PIA; Sierra Club; Smart Grid Services, Siemens; and The Greenlining Institute. Some of these other settling parties sponsored testimony and/or filed pleadings. We summarize their positions in the paragraphs which follow.

4.1.2.1. Nine Settling Parties

Some of the settling parties filed opening and reply briefs recommending that the Proposed Settlement be adopted without any changes. They also filed a reply to the Settlement Motion.[17] These nine settling parties recommend that the Proposed Settlement be adopted without any additional changes. They point out

[17] These three pleadings were filed by the following nine settling parties: Alliance of Automobile Manufacturers, American Honda Motor Company, Inc., Coalition of California Utility Employees, EDF, General Motors LLC, NRDC, PIA, Sierra Club, and The Greenlining Institute.

that the Proposed Settlement was negotiated by a diverse set of organizations, and include significant modifications to SDG&E's original VGI proposal. Among the organizations that agreed to the Proposed Settlement are ChargePoint and NRG eVgo, which are the nation's two largest third party EV infrastructure companies. The nine settling parties contend that any additional changes would upset the balance that all of the settlement parties have negotiated.

These nine settling parties contend that the Proposed Settlement should be adopted for two principal reasons.

The first reason is that SDG&E's VGI proposal, as modified by the Proposed Settlement, will accelerate the PEV market to help meet federal air quality standards and California's GHG reduction targets. In turn, such a program will support the electric grid, and provide benefits to utility customers. These nine settling parties contend that there is no alternative but to use electricity as a transportation fuel if California is to comply with the 2023 and 2032 federal air quality standards. They contend this will require a significant expansion of charging infrastructure, as well as the widespread adoption of PEVs, in order to meet the air quality standards and California's policy goals.

The nine settling parties also contend that the Proposed Settlement properly targets MUDs and workplaces for the deployment of EV site installations. They contend that the research about the use and adoption of EVs support these two types of sites as a means to increase the adoption of EVs. In addition, the use of EV batteries to absorb peak solar generation can be used to displace gasoline, and encourage EV charging at off-peak periods to optimize the use of the existing electric grid.

The second reason that the nine settling parties mention as to why the Proposed Settlement should be adopted is that the modifications to SDG&E's

original application represent significant improvements over SDG&E's original proposal. These improvements, as described in their opening brief, include the following: the commitment to deploy at least 10% of the site installations in disadvantaged communities; coordinating the deployment of site installations in disadvantaged communities with programs to grow the demand for EVs in disadvantaged communities; increase hiring in disadvantaged communities; the ability for site hosts to select a VGI Rate-to-Host option; and including provisions to protect against the potential for anti-competitive effects on third-party charging providers.

In their response to the comments on the Settlement Motion, the nine settling parties point out that the membership-based organizations who signed the Proposed Settlement, also represent over 300,000 California utility customers. They contend it is inaccurate for the non-settling parties to state that they are the only entities representing the interests of ratepayers.

The nine settling parties contend that the recommendations of TURN and UCAN to transform SDG&E's VGI program into a full or partial make ready program should be rejected. The nine settling parties contend that the recommendations of TURN and UCAN essentially reiterates the request that ORA made in its April 13, 2015 motion that hearings be held on ORA's California Electric Vehicle Infrastructure Pilot (Cal EVIP) proposal, which was denied in the May 28, 2015 ruling. ORA's Cal EVIP proposal is similar to SCE's application that was filed in A.14-10-014, in which SCE proposes that make ready stubs be built. The nine settling parties contend that SDG&E's VGI program, as well as SCE's proposal, should be allowed to go forward as each proposal is different, and both programs can demonstrate the relative advantages of each program.

In JMP's comments on the Settlement Motion, JMP recommended that SDG&E's application fund the ARB's Enhanced Fleet Modernization Program and the Light-Duty Financing Assistance Program. The nine settling parties support these two programs, but believe that the funding for these programs should come from other sources such as the Greenhouse Gas Reduction Fund, and the Air Quality Improvement Program.

Regarding the Proposed Settlement's provision to allow the VGI Rate-to-Host option, the nine settling parties contend that this will allow the VGI price signals to be delivered to the site hosts if this option is chosen. The settling parties point out that under this option, the site hosts will be required to submit load management plans that are consistent with the Guiding Principles set forth in the Proposed Settlement. In addition, site hosts will be able to offer their own pricing or load management strategies.

CESA recommends in its comments on the Settlement Motion that certain protective measures be added to the Proposed Settlement to ensure that the VGI program meets the balancing test established in D.14-12-079. The nine settling parties in their reply to the Settlement Motion state that the Proposed Settlement already addresses these protective measures. These protective measures include: the collection of the data and metric described in Appendix B of the Proposed Settlement; the role and responsibilities of the PAC, which are addressed in Appendix A of the Proposed Settlement; the submission of the interim progress report; and that VGI program changes will be made as needed as described in the Guiding Principles of the Proposed Settlement.

Some of the parties in their comments on the Settlement Motion expressed concern about the size of the participation payment. The nine settling parties point out that the PAC can recommend the amount of such a payment. In

addition, the nine settling parties point out that the Proposed Settlement states that the following factors will be considered in developing the participation payment: customer commitment; avoiding adverse impacts to deployment; total VGI facility cost; and customer segment. In addition, under the Proposed Settlement, SDG&E will need to request approval of the proposed participation payment through a Tier 2 advice letter, which is subject to protest.

In response to TURN's contention that the Proposed Settlement does not comply with Public Utilities Code Section 740.8, the nine settling parties contend that TURN's interpretation of the statute focusing on direct benefits in the form of safer, more reliable, or less costly service, would render all of the environmental and public health benefits in that code section meaningless. The settling parties contend that the VGI program is designed to provide safer, more reliable, and less costly electric service. In addition, there are the environmental and public health benefits, such as: promoting energy efficiency by using an EV instead of gasoline; the reduction of air pollution and GHG emissions; and the increased use of electricity as a clean alternative transportation fuel. The settling parties contend that TURN has overlooked those benefits.

TURN argued that SDG&E's request to use the revenues from the sale of the cap-and-trade allowances should be denied because it violates the regulatory requirements. The nine settling parties contend that TURN's interpretation would lead to absurd results. Instead of addressing SDG&E's request to use the cap-and-trade revenues in a single coordinated proceeding, the nine settling parties contend that D.12-12-033 has already settled that issue, and that such a request can be raised in an appropriate proceeding.

Of the nine settling parties, three also sponsored testimony in this proceeding. The positions that these three parties took before the Proposed Settlement was entered into is summarized below.

4.1.2.1.1. Environmental Defense Fund (EDF)

EDF is a signatory to the Proposed Settlement, and also sponsored testimony in these proceedings. EDF recognizes that EVs possess the capability to provide grid benefits by charging at times when the benefit to the electric grid is the highest, such as utilizing renewable energy when it is abundant. EDF contends that the benefits of charging EVs in this manner will result in the following: (1) taking advantage of an abundance of solar and other zero-carbon energy on the grid; (2) enabling the smooth integration of increasing amounts of renewable energy while reducing reliance on GHG producing gas-fired resources to provide ramping services; and (3) enhancing value for EVs that will lead to increased market penetration. If the EVs are not charged in a "smart" manner, EDF contends that the EV load could then have a tremendous impact on grid resources if charged at peak times, and could lead to the building of additional infrastructure and power plants.

In order to meet the state's goals, EDF contends that intervention by the Commission is needed to help reach these goals. The current barriers to the low EV penetration in California include the following: lack of consumer awareness and information; higher upfront costs and range anxiety; and lack of access to public charging infrastructure away from home. In order to overcome these barriers and to meet the state's goals, the targeting of underserved markets such as MUDs and workplaces is needed. In addition, the EV charging must be done in a manner that benefits the grid and consumers by sending price signals to

charge when renewable resources are plentiful and inexpensive, and during off-peak hours.

EDF supports SDG&E's VGI program for the most part, but recommends: (1) that the Commission ensure that SDG&E's ownership of infrastructure does not undermine a competitive market for EV infrastructure and associated services; and (2) since SDG&E's VGI program is to be funded by ratepayers, the Commission should ensure that the utility be compensated on the basis of delivering the anticipated benefits of the pilot through a system of rewards tied to performance, including ensuring that disadvantaged communities are seeing benefits from the pilot.

EDF contends that SDG&E's ownership of the EV site installations and EV charging stations will help to expand the amount of EV charging infrastructure, and will accommodate the work schedules of EV drivers by charging at workplaces. EDF believes this will encourage competition in the EV market rather than discouraging it, and increase the demand for EVs. EDF also supports the recommendations of other parties for a robust education and outreach effort. However, EDF contends that the Commission should monitor market conditions, and ensure that competition and innovation is not compromised by allowing SDG&E to own the EV charging infrastructure.

In order to monitor the benefits of SDG&E's VGI program, EDF recommends that the Commission establish metrics to measure the extent to which these benefits have been realized. EDF suggests various environmental performance metrics and social justice performance metrics in Exhibit EDF-1. EDF contends that SDG&E's shareholders and ratepayers should both share the risk if the expected benefits do not materialize, and supports a performance

based ratemaking model that would reward shareholders based on agreed-upon and verified performance metrics

4.1.2.1.2. Natural Resources Defense Council (NRDC)

NRDC is a signatory to the Proposed Settlement and sponsored testimony. In its testimony, NRDC points out that the transportation sector is the single largest source of GHG emissions in California. In order to meet the federal Clean Air Act, and to achieve California's greenhouse gas emission reduction target, NRDC contends that the state's transportation sector will need to transition to ZEVs and near-ZEVs.

To meet these federal and state objectives, NRDC contends this will require significant adoption of PEVs by those who live in MUDs, and in disadvantaged communities. In response to some parties' arguments that EVs may not be the technology choice of the future and could lead to stranded investments, NRDC contends that numerous studies have concluded that in order to meet California's GHG emission reduction targets, that this will require the widespread use of ZEVs powered by low carbon electricity. NRDC contends that SDG&E's proposal for 5500 charging stations will only result in a fraction of the EV charging stations that will be needed to recharge the number of PEVs that have been set as a goal for 2020 and 2025.

NRDC favors deploying EV site installations at both MUDs and workplaces. NRDC contends that potential EV owners are unlikely to purchase a PEV if they cannot recharge at one's residence. NRDC contends that targeting MUDs for the installation of EV site installations is necessary in order to scale up the adoption of PEVs. Through the targeting of workplaces for EV site installations, NRDC contends that this pilot can drive additional PEV sales,

increase the electric miles that are driven, helps to alleviate range anxiety, and ensure that PEVs are available in the afternoon to absorb and store the electricity produced during peak solar production.

With respect to the deployment of EV charging infrastructure in disadvantaged communities, NRDC supports requiring SDG&E to commit to deploying at least 10% of the site installations in disadvantaged communities. NRDC also points out that it advocated for the passage of the Charge Ahead California Initiative, and is advocating before the ARB for supplemental incentives to help low and moderate income households to purchase PEVs, and to increase access to ZEVs and near-ZEVs in disadvantaged communities. NRDC also supports JMP's recommendation for SDG&E to increase education and outreach efforts in underserved communities in partnership with CBOs.

NRDC favors electrifying the transportation sector because of the grid integration of tying EV charging to the availability of the existing spare generation capacity. If the EV charging load is integrated during off peak hours and at lower power levels that may reduce the need to construct new power plants.

In its rebuttal testimony, NRDC takes the position that each utility's proposal should be evaluated individually. Instead of requiring all three utilities to deploy a make ready approach, as some of the parties have advocated, NRDC contends that each utility proposal offers very different approaches toward meeting the state's goals. NRDC contends that SDG&E's VGI proposal has the potential of integrating EV charging load with the electricity generated from variable renewable resources such as solar. NRDC asserts that the "cost-effectiveness of a decision to buy a PEV with a higher incremental purchase

price hinges upon fuel savings, which can be maximized by charging during off-peak periods on time-variant rates." (Exhibit NRDC-2 at 3.)

Instead of adopting ORA's recommendation to form an "EVSE Pilot Working Group," NRDC recommends that SDG&E be directed to form an advisory group comprised of relevant stakeholders to help guide the implementation of the VGI program. NRDC opposes ORA's recommendation for a working group because of the lengthy delay that ORA's process would cause.

With respect to SDG&E's proposal to use competitive solicitations for independent contractors to furnish and install the site installations, NRDC recommends that SDG&E strengthen its commitments to supplier diversity and diversity contracting goals by: (1) improving minority contract spend; (2) improving outreach initiatives to increase and maintain diverse contractors; (3) consistent engagement with community groups to further strengthen supplier diversity efforts; (4) improving transparency and use of defined metrics to measure program progress and promote the improvement of industry standards; (5) investing in workforce training; and (6) early and consistent engagement with diverse businesses on upcoming contract needs.

4.1.2.1.3. Plug In America (PIA)

PIA sponsored rebuttal testimony. PIA's objective is "to accelerate the adoption of plug-in electric vehicles powered by clean, affordable, domestic electricity to reduce our nation's dependence on petroleum and improve the local and global environment." (Exhibit PIA-1 at 1.) PIA contends that the robust deployment of PEV infrastructure is critical for PEV market growth, and that the California utilities will play a major role in deploying infrastructure and encouraging the adoption of PEVs. PIA supports providing PEV drivers with

pricing signals so they can make intelligent choices about when they should charge their PEVs in order to maximize the use of renewables and off peak electricity.

However, PIA does not believe that SDG&E's VGI proposal maximizes EV drivers' usage of the charging stations because of SDG&E's limited deployment of Level 1 charging, and because SDG&E is not installing DC fast charging. PIA contends that PEV drivers and property owners of potential site installations need more flexibility in configuring the EV charging stations. PIA recommends that SDG&E implement additional or exclusive Level 1 charging for certain sites where it is appropriate. In addition, DC fast charging should be introduced as part of SDG&E's pilot program. PIA anticipates that Level 2 charging at the home will decrease as longer range PEVs are introduced into the market.

PIA contends that the offering of low cost or free low power charging at the workplace is one of the greatest incentives to PEV ownership. Level 1 or low power Level 2 charging at the workplace will enable most PEVs to recapture the energy used in the commute to work, while causing the least grid demand.

PIA contends that the EV infrastructure that is being built must be capable of evolving as the EV market develops. That is why PIA supports allowing EV drivers and property owners of the site installations "to choose their own EVSE or charging infrastructure from an approved list of vendors compatible with the goals and technology required by SDG&E's pilot program." (Exhibit PIA-1 at 6.)

Regarding the proposals to implement EV charging infrastructure using a make ready approach, PIA contends that the make ready strategy is unproven, and that such an approach has not resulted in significant deployments of make ready stubs as part of the Commission's settlement with NRG to deploy EV site installations.

4.1.2.2. Other Signatories Filing Separate Briefs and/or Sponsoring Testimony

Four of the other signatories to the Proposed Settlement filed separate briefs.[18] Those parties are ChargePoint, GPI, KnGrid, and Siemens. In the paragraphs below, we describe their positions.

4.1.2.2.1. ChargePoint, Inc. (ChargePoint)

ChargePoint filed its own opening and reply briefs in support of the Proposed Settlement, and a reply to the Settlement Motion. ChargePoint also sponsored testimony. ChargePoint recommends that the Proposed Settlement be adopted. ChargePoint does not support the adoption of SDG&E's VGI program as originally proposed. ChargePoint contends that the program modifications in the Proposed Settlement include provisions that address the "issues raised by various parties, including industry participants, environmental and clean energy advocacy organizations, and representatives of disadvantaged communities." (ChargePoint, September 4, 2015 Opening Brief at 3.)

ChargePoint mentions that among the program modifications in the Proposed Settlement are the following: the availability of the VGI Rate-to-Host option; allowing the site hosts to select the EVSE and services for their sites from a list of prequalified vendors; and the requirement that SDG&E assess a participation payment on site hosts, except at sites located in disadvantaged communities. According to Chargepoint, the modification to the VGI rate will result in more flexibility as to how the VGI rate can be offered, and encourage site hosts to participate in the VGI program. The modification allowing the site hosts to select the EVSE and services that they want will encourage innovation,

[18] Of these four, ChargePoint, GPI, and KnGrid also sponsored testimony.

and allow them to decide if services in addition to or complementary to the VGI program are appropriate. ChargePoint contends that the site host participation payment "will help ensure that EVSE will go where demand truly exists (which avoids stranded costs), and that requiring the site host to have 'skin in the game' will provide an incentive to 'right size' the installation and maintain it." (ChargePoint, September 4, 2015 Opening Brief at 6.)

Another modification that was made in the Proposed Settlement involves the addition of an interim progress report to the Commission, which is to include the data as described in Appendix B of the Proposed Settlement. ChargePoint contends that this will obligate SDG&E to begin collecting data on the first day of the program implementation, and allow the Commission and other parties to monitor, assess, and make improvements to the VGI program.

Prior to entering into the Proposed Settlement, ChargePoint filed a response to SDG&E's application indicating general support for a VGI rate, and raised issues about the structure of SDG&E's program. ChargePoint also sponsored testimony.

In general, ChargePoint's testimony addresses the scope and structure of SDG&E's VGI program, identifies potential impacts on competitive markets, and recommends ways in which to address such impacts and improve program design. ChargePoint recommends that the Commission order SDG&E to make certain modifications to its proposal to address the concerns that ChargePoint has raised. As described in its testimony, ChargePoint's concerns about SDG&E's original VGI program proposal center around three reasons.

The first reason for ChargePoint's concern is that it believes SDG&E's original proposal violates Public Utilities Code Section 740.3 because it allows SDG&E to unfairly compete with non-utility enterprises. In addition,

ChargePoint contends that SDG&E's original proposal fails the balancing test set forth in D.11-07-029, and reaffirmed in D.14-12-079, because SDG&E's proposal undermines competition and restricts customer choice. Prior to the Proposed Settlement, ChargePoint recommended that the Commission impose rules, conditions, and regulatory protections, as described in ChargePoint's testimony, to mitigate the anticompetitive impacts or unfair advantages caused by SDG&E's proposal.

The second reason why ChargePoint opposes SDG&E's original VGI proposal is because of several significant design flaws it sees in SDG&E's proposal. As described in ChargePoint's testimony, these flaws concern the following: the single specification EVSE process; the one-size-fits-all site specifications; the SDG&E customer requirement; the SDG&E VGI interface, and the mandated participation in the VGI rate; and providing free EVSE to the site hosts.

The third reason for ChargePoint's opposition to SDG&E's original VGI proposal is the size and phasing of the program. The size and phasing concerns are related to ChargePoint's concerns about program design and the anticompetitive impacts. ChargePoint is also concerned that the program would deploy 5,500 charging stations before any program review and adjustment takes place.

4.1.2.2.2. Green Power Institute (GPI)

GPI, a signatory to the Proposed Settlement, filed a reply brief in support of the Proposed Settlement. GPI also sponsored testimony.

GPI believes that on balance, the Proposed Settlement is "a step forward in promoting EV adoption, reducing GHG emissions, and protecting ratepayers

against undue costs." (GPI September 18, 2015 Reply Brief at 8.) GPI disagrees with those who advocate scaling back the size of the Proposed Settlement.

In its reply brief, GPI remains receptive to a number of modifications suggested by the other parties, especially those that would require SDG&E to only own the make ready stubs of the EV site installations. In its testimony, GPI took the position that SDG&E's program should only allow make ready ownership. GPI states in its reply brief that it would not be opposed to such a modification to the Proposed Settlement.

Although the Governor's Executive Order is not binding on the Commission, GPI contends that the Commission has been engaged in activities involving EVs that help fulfill the Governor's objectives, and that the statutory enactments require the Commission to meet a number of targets for EVs.

In its prepared testimony, GPI is supportive in general of SDG&E's application because of the concern that EV sales are falling behind the schedule that is required to meet Governor's goal of one million ZEVs by 2020, and 1.5 million ZEVs by 2025. GPI contends that at "the end of 2014 and beginning of 2015, sales of ZEVs in California were robust but declining, and sales are clearly below the levels of growth we need to see in order to reach the 2020 and 2025 goals." (Exhibit GPI-1 at 4.) In order to meet the 2020 goal, GPI contends that a 45% annual growth rate is needed. To meet the 2025 goal of 1.5 million ZEVs, a 26% annual growth rate is needed.

In order to meet those goals, GPI contends that the Commission and other entities will need to do much more than they are currently doing in order to promote the adoption of ZEVs. GPI believes that this can be accomplished by making the following changes to SDG&E's original VGI proposal.

First, GPI recommends that the four guiding principles set forth in the July 16, 2014 scoping memo and ruling in R.13-11-007, and which are described in Exhibit GPI-1, be used to evaluate SDG&E's application. In addition, GPI recommends that the following two additional principles be used as well:

- Promote utility-financed PEV infrastructure solutions that can be shown to be cost-effective, regardless of whether such facilities are owned by the utilities or third parties.
- Leverage utility resources and networks to maximize ratepayer education on PEVs, regardless of whether utilities or third parties manage such activities.

GPI's second recommendation is for the Commission to evaluate all three utility EVSE applications using a common evaluative framework. GPI contends that this framework should be based on the mandates set forth in the Governor's Executive Order concerning the goal for the deployment of ZEVs.

GPI's third recommendation is for the Commission to approve a make ready approach, as SCE proposes in its EV application, instead of SDG&E's proposal to own the EVSE infrastructure. Under GPI's recommendation, SDG&E would own and operate the infrastructure needed to accommodate the 5,500 charging stations, but would not own or operate the charging stations themselves. Alternatively, GPI recommends that the Commission allow SDG&E to own no more than 50% of the charging stations, and that third parties be allowed to bid on the ownership of the remaining 50% of the charging stations. GPI states that this third recommendation "is an appropriate balance between the policy concern of promoting EV ownership, and the EV market more generally, and anti-competitive impacts from allowing very large actors like SDG&E to be direct owners of chargers when there are viable third parties that can do so." (Exhibit GPI-1 at 10.)

The fourth recommendation of GPI is to reduce the timeframe of SDG&E's original VGI proposal. Instead of the five year rollout for SDG&E's VGI program, GPI recommends that the rollout be reduced to two years. In addition, GPI recommends that the additional data collection be reduced from five years to three years.

As described in Exhibit GPI-1, the fifth recommendation of GPI is for SDG&E to improve its cost-effectiveness analysis in several areas.

GPI's sixth recommendation is for SDG&E to clarify that one of the objectives of SDG&E's VGI rate is to absorb excess solar generation during times of peak production. GPI further recommends that SDG&E work with EVSE providers to incorporate the VGI rate into their software applications in order to make it as seamless as possible for EV drivers to take advantage of the VGI rate.

GPI's seventh recommendation is for the Commission and SDG&E to consider SDG&E's VGI proposal in the context of the Distribution Resource Plan (DRP). GPI contends that the goal of the DRP is to optimize the distribution grid for distributed energy resources, which includes EVs. As EV adoption grows, GPI contends it is likely the utilities will need to make significant upgrades to their distribution grids to accommodate the additional EV load, which needs to be considered in the DRP.

The eighth recommendation of GPI is for an independent evaluator to be appointed to oversee the expenditures associated with SDG&E's VGI program. GPI contends that the cost of an independent evaluator will be offset by the cost savings that will result from the evaluation of such costs.

In its rebuttal testimony, GPI supports the recommendations of other parties who favor a reduction in the size and scope of SDG&E's VGI proposal,

and the need for substantial third party education and outreach efforts. GPI recommends the following:

- GPI continues to support either the make ready approach, or that 50% of the EV site installations be owned by third parties.
- GPI agrees with the recommendations of ORA and TURN to scale back SDG&E's VGI proposal, and recommends that SDG&E be allowed to install make ready infrastructure for up to 200 MUD site installations and 100 workplace site installations, with up to 10 charging stations at each site installation.
- If a phased rollout is adopted, GPI recommends that the Commission preapprove phase 2 if the criteria described in GPI's rebuttal testimony is met by the phase 1 results.
- GPI recommends that some funds be set aside to help defray the costs of site installations for third party owners who can make a good case that they should receive at least a partial subsidy.
- GPI recommends that the Commission require a substantial increase in education and outreach funding (at least 25% of the budget for make ready infrastructure) for SDG&E's VGI program, with the majority of funding to go to third parties, such as Energy Upgrade California.
- GPI recommends that a workshop or additional steps be taken to focus on the education and outreach issues raised by SDG&E's application.

4.1.2.2.3. KnGrid, LLC (KnGrid)

KnGrid is a signatory to the Proposed Settlement, and also sponsored testimony.

In its testimony, KnGrid supports SDG&E's original VGI proposal because it believes the proposal is aligned with California's goal of fostering the development of a self-sustaining market for ZEVs. KnGrid contends that SDG&E's VGI proposal will address the cost barriers and consumer reluctance to EV adoption because SDG&E will be targeting the underserved MUD and

workplace market segments. During the five-year rollout and evaluation period, SDG&E will be able to experiment with different suppliers and technical approaches with respect to the offering of the VGI rate. KnGrid contends that the VGI rate will enable a PEV owner to use Level 2 charging in a manner "that helps electric system operators cost-effectively maintain system reliability as they increase the use of variable renewable sources of energy," and "enables lower total cost of ownership of PEVs through intelligent management of the vehicle's battery…." (Exhibit KnGrid-1 at 5.)

Before approving SDG&E's original VGI proposal, KnGrid recommends that the Commission first select a VGI interoperability standard in advance, and that the Commission require the EV charging infrastructure to adhere to this VGI interoperability standard. KnGrid contends that there are two available global VGI standards, ISO/IEC 15118 and SEP 2.0.[19] KnGrid contends that there is no value in developing a new VGI interoperability standard when these global standards are already available. KnGrid asserts that if the VGI interoperability standard is not established and codified at the outset, that this could result in additional risks in stranding ratepayer investments and costs because of the work and standards that have already been done.

4.1.2.2.4. Siemens

The other settling party who filed a separate opening brief, was Siemens, through its eMeter subsidiary. Siemens did not sponsor any testimony. Siemens is a supplier of EV charging hardware, software, and data management and control systems. Siemens supports the adoption of the Proposed Settlement.

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[19] These abbreviations refer to the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), and Smart Energy Profile (SEP).

4.2. Non-Settling Parties

In the sections below, the positions of the non-settling parties are described. The summaries of their positions are taken from the pleadings that they filed, and from the testimony that they may have sponsored.

4.2.1. California Energy Storage Alliance (CESA)

CESA sponsored testimony in this proceeding, and filed comments on the Settlement Motion. CESA is a coalition made up of about "90 member companies that is committed to advancing the role of energy storage to promote the growth of renewable energy and a more efficient, affordable, clean, and reliable electric power system." (Exhibit CESA-1 at 1-2.) CESA's members include "energy storage technology manufacturers, renewable energy component manufacturers, renewable energy, fossil fuel and energy storage project developers, software developers, electrical contractors and systems integrators." (*Id.* at 2.)

In its testimony, CESA took the position that SDG&E's VGI proposal is "fundamentally flawed," and that the proposal would provide SDG&E with "an insurmountably unfair utility advantage if it were to proceed in its current form." (Exhibit CESA-1 at 2-3.) CESA claims that the critical flaw with SDG&E's proposal is that the playing field will be uneven because ratepayer funds will be used to install the SDG&E-owned EV site installations, which essentially provides site hosts with free EV charging infrastructure.

CESA contends that these EV charging infrastructure costs make up a substantial portion of the costs that third-party EV developers would have to incur. CESA's testimony estimates that the average per site EV service connection and EV charging infrastructure cost is about $60,000 including the total cost of ownership. CESA contends that SDG&E should not be allowed to

earn a rate of return on the EVSE that is rate based. Due to the uneven playing field, CESA contends this is likely to deter private investment, reduce customer choice, and slow innovation.

CESA also points out that SDG&E's vertically integrated ownership model will limit "customer choice of equipment and service pairings, and it proposes rigid network standards and payment mechanisms that could result in a balkanized statewide market for EV charging services." (Exhibit CESA-1 at 6.) Instead, the Commission should adopt a policy whereby EVSE and services can be "selected, purchased, and owned by customers to promote customer freedom of choice." (*Id*. at 7.) CESA also recommends that SDG&E's VGI rate structure be made available to third party developers of EV site installations. CESA contends that the benefit of opening up the ownership of the EVSE and the offering of other services will lead to innovative pricing, servicing, and technology solutions.

CESA contends that SDG&E's proposal to deploy 5,500 EV charging stations, with a target of a 20% market share, far exceeds a pilot program. CESA further contends that SDG&E's cost effectiveness arguments will ring hollow because third party investment in the EV charging market will falter, and there will be no other competitors to compare and test SDG&E's cost effectiveness results.

If the Commission agrees with SDG&E's 20% market share goal, CESA recommends that a competitive marketplace be preserved. This can be accomplished by allocating 20% of the authorized funding for SDG&E owned and operated EV site installations, and allocating 80% to make ready infrastructure and EVSE rebates to third parties. SDG&E should also be required to annually report on the deployment of SDG&E owned and third party owned

site installations, and to demonstrate that it is facilitating the growth of third party owned site installations. If ratepayer funds are sought to support additional utility investments, those costs would need to be justified, and stakeholders should be provided the opportunity to review the request for additional costs. To remove any incentive to unfairly impede competition, CESA recommends that the Commission restrict rate recovery of SDG&E owned site installations to actual pass-through costs. CESA further recommends that the EV charging tariff also be made available to third party owned site installations.

In its comments on the Settlement Motion, CESA takes the position that the Proposed Settlement still poses a significant risk to the provisioning of EV infrastructure and services by competing third parties. CESA recommends that the following protective measures be added to the Proposed Settlement to ensure that SDG&E's VGI program meets the balancing test adopted in D.14-12-079.

First, CESA recommends that an independent and diverse PAC be established, with the authority to report on key issues directly to the Commission. CESA recommends that the PAC include, but not be limited to, industry stakeholders that have no business engagements or obligation to SDG&E. These industry stakeholders, such as CESA, could provide independent and technically knowledgeable oversight. CESA also recommends that the PAC be permitted to provide regular periodic reports to the assigned Commissioner in R.13-11-007, and to Commission staff overseeing SDG&E's VGI program. CESA proposes that the reports address whether the VGI program is meeting the key points of the balancing test, and program modification recommendations.

CESA's second recommendation is that the data collection effort for the VGI program should include current and forward looking projections to

document the development of third-party and SDG&E-owned site installations. CESA recommends that this data be updated quarterly and provided to the PAC.

CESA's third recommendation is that 18 months after the Commission approves SDG&E's VGI program, SDG&E be required to file an interim progress report in R.13-11-007 containing the data in Appendix B of the Proposed Settlement, and which describes SDG&E's activities to date in implementing the VGI program, its impacts on deployment, and its market share in the market segments that SDG&E is targeting. CESA recommends that parties then be allowed to file comments on the interim progress report, including recommendations to change the VGI program. Workshops could then be ordered, or other appropriate action could be taken.

In order to encourage program participants to be actively involved and invested in the VGI program, CESA's fourth recommendation is to require a cost contribution from all participating VGI site hosts, except for those at sites located in disadvantaged communities. CESA recommends that this payment be in the amount of $1,000 per charging station. If SDG&E wants more than $1,000, SDG&E would have to consult with the PAC, and then file a Tier 2 advice letter to request approval.

The fifth recommendation of CESA is for the Commission to require SDG&E to implement the following procedures to ensure that third party site installations are not hampered, delayed, or overcharged.

(1) Data should be collected independently to assure accuracy of labor and costs, and that this data be subject to review and possible program adjustments.

(2) SDG&E should create appropriate firewalls to ensure that any non-utility EV site installations performed by SDG&E that use third-party charging platforms and applications are not shared with, or disclosed to, SDG&E's EV ownership personnel.

(3) Transparent policies and procedures should be created to ensure that third party site installations are queued fairly for the interconnection process, and that SDG&E site installations are not given priority or any preference.

(4) SDG&E should provide at least the same information and transparency to third party developers about EV charging sites or potential EV charging sites as SDG&E has.

(5) SDG&E should establish procedures to ensure unbiased pre-approval of design configurations that can be referenced by third parties, and not require extensive or repeated configuration studies of third party owned EV site installations.

4.2.2. Consumer Federation of California (CFC)

CFC filed a response to the Settlement Motion, and a reply brief. CFC recommends that the Commission reject the Proposed Settlement, and instead adopt the program recommended by TURN.

CFC contends that under the Proposed Settlement, all of SDG&E's ratepayers would be responsible for funding the development and construction of the 550 EV site installations across SDG&E's service territory. CFC takes the position that ratepayers should not be financially responsible for a program that in its view provides no tangible and definitive benefits to ratepayers. Although there may be environmental benefits, such as a reduction in GHG emissions and an increase in EV adoption, CFC contends such a program is outside the scope of utility service. CFC contends that shareholder monies should be used instead to support such a program.

In the event the Commission adopts an EV infrastructure program, CFC recommends that TURN's proposal for make ready stubs at 275 MUDs at a cost of $15 million should be adopted. This should then be followed by an evaluation afterwards of the cost allocation between ratepayers, site hosts, EV drivers, and SDG&E shareholders.

4.2.3. Federal Executive Agencies (FEA)

FEA represents the United States Department of the Navy, and other federal agencies. These agencies have many different locations in SDG&E's service territory, and a large number of the employees of these agencies are customers of SDG&E.

FEA sponsored testimony and filed various pleadings. The FEA is supportive in general of SDG&E's efforts to implement a VGI pilot program. However, FEA is concerned that none of the parties representing consumers support the Proposed Settlement, and recommends that the Proposed Settlement be rejected. FEA is also concerned with two rate design issues that have not been resolved by the Proposed Settlement. FEA contends that SDG&E's original VGI proposal, and the Proposed Settlement, fail to meet the requirement set forth in Public Utilities Code Section 740.3(c) which provides in part that the Commission "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 first rate design issue that FEA is concerned about pertains to the volumetric rate design of the VGI rate. FEA acknowledges that the VGI rate is essentially a volumetric rate because the VGI rate will be charged to customers who use the service, when they use the service. As such, there is no practical way to separately levy demand charges and customer charges on this usage. FEA recommends that SDG&E monitor and track the revenue received from actual usage and compare that with SDG&E's projected usage. FEA also recommends that SDG&E file monitoring reports with the Commission about the usage. Such reports will provide all the parties with information as to whether

the volumetric rate should be redesigned and rates adjusted to recover a reasonable amount of revenues from the users of the EV site installations.

The second rate design concern of FEA is that the EV charging infrastructure costs will be spread across all of SDG&E's customers, instead of being confined to the users of the EV site installations. FEA contends that the EV drivers using the site installations should eventually pay for the full cost of the EV infrastructure. FEA recommends that as an initial step, the 2016 revenue requirement request of $3.8 million be included in the VGI base rates. FEA proposes that this amount be adjusted over time with the goal that the EV users of the site installations pay for the infrastructure costs, along with their EV charging usage. FEA acknowledges that requiring full cost recovery from EV drivers at the outset may increase the charging rate too much, which may deter potential EV drivers from utilizing these site installations.

4.2.4. Joint Minority Parties (JMP)

JMP refers to the following groups who have joined together and participated in this proceeding: National Asian American Coalition, Ecumenical Center for Black Church Studies, Jesse Miranda Center for Hispanic Leadership, Christ Our Redeemer AME Church, National Hispanic Christian Leadership Conference, Orange County Interdenominational Alliance, and the Los Angeles Latino Chamber of Commerce. JMP states that it is the "only direct-services oriented party representing minority groups in this proceeding," and represents ratepayers who will not utilize the VGI program infrastructure, but will be responsible for paying for the program. (JMP, July 3, 2015 Comments on Settlement Motion at 2.)

JMP sponsored testimony and filed pleadings in this proceeding. Although the JMP favors greater usage of EVs and the Governor's renewable

energy goals, JMP take issue with the excessive cost (over $100 million) and size (550 site installations with 5,500 charging stations) of both SDG&E's original VGI proposal and the Proposed Settlement. JMP contends that SDG&E has not provided sufficient evidence that the increased availability of EVSE will result in a substantial increase in EV adoption.

With a proposed budget of more than $100 million, JMP cautions that if the assumptions and projections of SDG&E are flawed, that considerable resources will be wasted. JMP recommends that SDG&E's original VGI program, and the Proposed Settlement, be rejected as not being in the interest of ratepayers, and unreasonable in light of the record. If the program is approved in some form, JMP recommends that the scope of the program be significantly reduced in size, cost, and cost recovery.

The JMP contend that since the VGI rate program is a new concept with significant unknown risk and uncertain benefits, SDG&E's VGI proposal and Proposed Settlement should be restricted to "a focused and narrowly sized test pilot program." (JMP, September 4, 2015 Opening Brief at 4.) They point out that an additional 5500 charging stations would flood the existing 730 EV charging stations that exist already. In addition, the duration of this program includes installations over a five year period, and 20 years of cost recovery and O&M costs associated with the EVSE over their useful lives.

The JMP also question the assumptions about the benefits of SDG&E's VGI program. JMP points out that the anticipated benefits are based on the assumption that as more EV site installations are installed, that this will lead to the increased adoption of PEVs. However, the testimony of JMP and others point out that the high cost of a PEV will act as a barrier to increased PEV adoption. JMP also questions whether PEVs will be selected by consumers as the

preferred AFV in the coming years. JMP notes that hydrogen powered vehicles will soon be introduced in California, and that such vehicles can be fueled much quicker, and have a greater range than PEVs. JMP is also concerned about continuing low prices for oil, which may deter consumers from purchasing EVs even if there are rebates. Another reason as to why SDG&E's program should be scaled back is because of the changing technology involving PEVs and the alternative charging technologies that exist today.

The Proposed Settlement includes a provision that 10% of the site installations will be located in disadvantaged communities as identified by the CalEnviroScreen tool. The JMP is concerned with the lack of specificity regarding site selection in disadvantaged communities. JMP points out that the CalEnviroScreen tool provides data on a numerous indicators, and lacks the specificity needed to select site hosts in disadvantaged communities that can best utilize the EV site installations and to stimulate more EV adoption. The JMP also contend that SDG&E's responses to the August 5, 2015 ruling to clarify how potential site hosts in disadvantaged communities will be identified were vague.

JMP recommends that the site selection for EV site installations in disadvantaged communities should give priority to those communities with the greatest economic hardship factors. These factors could include such things as income, environmental pollution, and ethnic composition of neighborhoods. In addition, the site selection should be coordinated with the SB 1275 EV car sharing program, and in communities where there is a high level of participation in PEV subsidy programs.

JMP also contends that the Proposed Settlement lacks sufficient provisions to ensure that those living in disadvantaged communities will adopt EVs. Although the Proposed Settlement states that SDG&E will complement and

coordinate with government programs, such as SB 1275, there are insufficient details in the Proposed Settlement as to how this will be accomplished. JMP recommends that provisions be included in the VGI program which commits a specific amount of funding to subsidize the purchase of EVs in the form of rebates. JMP also recommends that the size of the rebate be higher for those with lesser incomes. Without subsidies and incentives to assist low income consumers in purchasing EVs, JMP contends that the EV charging facilities in disadvantaged communities will go underutilized, and result in unnecessary costs. JMP states that "Providing funds to reduce the high initial price of EVs is a far more tried and true and reasonable method of encouraging EV adoption than building EVSE where demand does not yet exist." (JMP, July 20, 2015 Reply Comments on Settlement Motion at 4.) JMP also believes that there will be a need for a massive educational, marketing, and outreach effort if rebates to purchase EVs are offered to those living in disadvantaged communities.

As for the role of the PAC, JMP contends that the PAC may be ineffective, and that its input will not be taken seriously. JMP points out that the Proposed Settlement lacks details on how the PAC members will be chosen, and states that there is nothing to prevent the PAC from being stacked with a majority of representatives from only a few organizations.

JMP favors the adoption of a pilot program that will mitigate the risk of stranded assets and reduce excessive costs. JMP supports TURN's proposal to reduce the scope of SDG&E's program, and to focus site selection at MUDs rather than at workplaces. JMP agrees with TURN's position that potential EV owners view the need for home charging as a significant factor, and that the MUD locations are currently underserved by the EVSE market.

JMP also recommends that SDG&E only provide the infrastructure up to the make ready stub. This will reduce the costs to ratepayers, while also reducing the cost barriers to third party EVSE suppliers, which is likely to lead to more third party EV site installations.

JMP opposes SDG&E's ownership of EVSE because of the anti-competitive impact on third parties, and the ongoing maintenance costs that would be required if the EV site installations are owned by SDG&E. JMP is open to limiting SDG&E's ownership of EV site installations to locations where third party EVSE providers are not interested in participating.

The JMP contends that the group of ratepayers who will benefit the least from the VGI program are low income ratepayers who will be required to pay a proportionate share of the VGI program costs. These same low income ratepayers are also the least likely to be able to afford PEVs. If the VGI program is successful, SDG&E's shareholders will benefit from the increased sales of electricity and distributed load. Instead of having ratepayers bear all of the risks of funding this program, the JMP favors shifting part of these costs onto shareholders, and the EV owners who will be using the site installations. JMP recommends that SDG&E's shareholders fund at least 50% of the program costs. JMP contends that this will help shift the burden away from all ratepayers, most of whom will not be utilizing the EV site installations.

The JMP recommends that ratepayers living in disadvantaged communities should only pay 10% of the program costs. JMP contends that this is equitable because only 10% of the EV site installations will be located in disadvantaged communities, and because low income ratepayers will be least able to afford an EV and are unlikely to use the EV site installations. Alternatively, JMP recommends that all low income ratepayers be responsible for

only 10% of the costs, and those enrolled in the California Alternate Rates for Energy (CARE) be completely exempt.

4.2.5. Marin Clean Energy

In its comments on the Settlement Motion, Marin Clean Energy supports the steps taken in the Proposed Settlement to expand the flexibility and the opportunity for customer choice in the deployment of EVSE. However, Marin Clean Energy cautions the Commission to be aware of possible anti-competitive impacts on non-utility load serving entities when it comes to site selection and electricity supply.

4.2.6. Office of Ratepayer Advocates (ORA)

ORA sponsored testimony, and filed a number of different pleadings in this proceeding. ORA recommends that a much smaller VGI program be adopted instead of the Proposed Settlement. Prior to the Proposed Settlement, ORA had recommended in its testimony that the Commission deny SDG&E's VGI proposal, and adopt ORA's Cal EVIP as the framework to design, approve, and implement the utilities' EV pilot programs.

With respect to the size of SDG&E's proposal, ORA contends there is no significant evidence that increasing the number of site installations at MUDs and workplaces will increase PEV adoption. ORA also contends SDG&E's proposal may create stranded assets if PEV technology develops to the point where large scale charging infrastructure is not needed. ORA further contends that SDG&E's VGI proposal is much larger than the size of other PEV charging infrastructure pilots in the United States, and larger than other pilot programs the Commission has authorized. Due to the number of charging stations in SDG&E's proposal, and its proposal to own all of the site installations and charging stations, ORA contends that SDG&E will likely have an unfair market advantage over third

party EVSPs. ORA contends that SDG&E's market advantage will be further reinforced by the ratepayer funding of SDG&E's VGI proposal.

With respect to the cost of SDG&E's proposal, ORA contends that the Commission should not approve a pilot program costing $103 million to test the unproven assumption that the siting of EV site installations at MUDs and workplaces will increase PEV adoption. ORA contends that ratepayers will end up paying for this EV infrastructure until around 2037 because $55 million of the $103 million represents capital costs for the EV infrastructure, which would be placed into ratebase under SDG&E's VGI proposal. ORA contends that SDG&E's proposal to install 5500 charging stations exceeds the definition of a pilot project, and "more clearly resembles a full scale business model which is inappropriate when risking ratepayer money." (Exhibit ORA-1 at 2-15.)

In the event the Commission decides to adopt a VGI program similar to what SDG&E proposes, ORA recommends in its testimony that: (1) SDG&E's pilot program be reduced to 500 charging stations at a cost of $7.7 million, instead of the 5,500 charging stations that SDG&E requests; and (2) SDG&E's ownership of the site installations be restricted to 20% of the market (250 site installations), and that the remainder be open to third party participation. If the Commission only wants to adopt an SDG&E-owned pilot program, ORA recommends that SDG&E be authorized to install and own 200 charging stations. ORA further recommends that SDG&E submit a report approximately one year after the VGI program is implemented, in addition to the interim progress report that would be due under the Proposed Settlement.

ORA's primary recommendation, however, is for the Commission to deny SDG&E's application, and establish a pilot plan framework to design, approve, and implement the EV charging applications of SDG&E, PG&E, and SCE, and to

use that framework to guide the development of successive pilots or full-scale programs. ORA refers to its framework as Cal EVIP.[20]

As described in ORA's testimony, the Cal EVIP is based on four guiding principles, several design principles, and an implementation process. As part of the Cal EVIP process, an EVSE Pilot Working Group (Working Group) would be formed. The objective of the Working Group is to develop an EVSE Pilot Plan that can be deployed in each utility's service territory. As described at page 4-1 of Exhibit ORA-1, an EVSE Pilot Plan Study would be developed first to "examine the ability of different EVSE ownership models to address EVSE cost and access barriers." After this study is completed, EV pilots could then be authorized in each utility's territory. ORA's testimony recommends that hearings be held on ORA's Cal EVIP framework, and that the Commission approve such a framework.

Around the time ORA submitted its prepared testimony, ORA filed a motion on April 13, 2015 requesting that the three utility EV applications be consolidated, and that hearings be held on ORA's Cal EVIP proposal. A ruling denying ORA's motion was issued on May 28, 2015. The ruling denied ORA's motion because of D.14-12-079, which decided that each utility request should be examined on a case-specific basis.

In its September 4, 2015 opening brief, ORA recommends that a smaller program be authorized based on SDG&E's VGI proposal. ORA recommends that the program be divided into two phases.

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[20] Exhibit ORA-2 specifically refers to ORA's Cal EVIP proposal. Although the Cal EVIP proposal is not specifically referenced in Exhibit ORA-1, ORA's proposal appears to be based on the principles and design guidelines referenced in Chapters 4 and 6 of Exhibit ORA-1.

In Phase One, ORA recommends that SDG&E be allowed to deploy make ready infrastructure[21] to support 750 charging stations, 10% of which would be in disadvantaged communities. ORA recommends that in Phase One, 75% of the charging stations be deployed in MUDs, and that 25% be deployed at workplaces.[22] Phase One should be at least 12 months long, and should continue until the 750 charging stations have been deployed.

Under ORA's proposal, the costs of Phase One would be funded by ratepayers for the EV service connection and the EV supply infrastructure. ORA recommends a 100% rebate for the costs of EV charger equipment that is deployed on a site host's property located in a disadvantaged community. Under ORA's proposal, the cost of the EV charger equipment would be the responsibility of the site hosts, third party EVSPs, or SDG&E's shareholders should SDG&E be allowed to own the charging stations.

If a program participation payment is assessed, ORA contends that the amount should be sufficient to defray more than a nominal portion of the customer site program costs.

ORA supports allowing the site hosts to choose from the VGI Rate-to-Host or VGI Rate-to-Driver options. ORA recommends that steps be taken in Phase One to develop performance requirements that the VGI Rate-to-Host participants

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[21] ORA does not support utility ownership of charging stations, but recognizes that in Phase One, areas may be identified where utility ownership may be needed to increase EV adoption.

[22] ORA suggests that if there is insufficient interest to site the charging stations at MUDs, SDG&E could file an advice letter to modify the scope of the program. In addition, SDG&E should submit a report on why potential MUD host sites did not decide to participate, and to identify other barriers to overcome the lack of participation.

must satisfy, and to develop performance measures to assess the effectiveness of the site host's load management plan.

Due to the variables in the selection of site hosts, ORA recommends that the Commission be more involved, and provide oversight and direction during Phase One. At the outset of this program, the challenge of selecting the site hosts should be a priority. These challenges include such variables as: EV demand; site related characteristics; site owner willingness to sign easements; and VGI program requirements such as locating the site installations in a variety of distribution circuits, and siting them in disadvantaged communities.

ORA recommends that SDG&E submit quarterly progress reports during Phase One, and after 600 charging stations have been installed, that SDG&E issue an interim report on Phase One. Once 750 charging stations have been installed, a final report would be submitted. ORA recommends that hearings be scheduled on the Interim Report so that stakeholders can identify elements of the program that should be modified for Phase Two.

Based on the data and information gathered in Phase One, Phase Two implementation could then begin. ORA suggests that this phase could cover the remaining 4,750 charging stations, for a total of 5,500 charging stations.

ORA recommends that the Commission specify the format of the progress reports, which should describe at a minimum the following: how specific VGI program issues were identified; the processes for prioritizing issues; and the methods and timelines to resolve these issues. With respect to the Interim Report, ORA recommends that it "reflect information, data trends, and findings related to a list of performance metrics including, but not limited to, VGI marketing, education, and outreach…, site acquisition and installation efforts, EVSE deployment per market segment, EV charger utilization at the site level,

load impacts, fuel savings, and GHG reductions." (ORA September 4, 2015 Opening Brief at 16.)

4.2.7. Shell Energy North America (US), L.P. (Shell Energy)

Shell Energy raises two issues with respect to SDG&E's original VGI proposal, and the Proposed Settlement.

The first issue that Shell Energy is concerned about is that SDG&E would be the exclusive owner of the EV site installations and the EVSE under SDG&E's VGI proposal and the Proposed Settlement. In SDG&E's response to the August 5, 2015 ruling to clarify the Proposed Settlement, SDG&E responded that "utility ownership is necessary to ensure that all ratepayers, who are funding the VGI Program, are protected…." (August 21, 2015 SDG&E Response at 18; See Exhibit SDG&E-8 at 4-5.)

Shell Energy opposes SDG&E's position regarding the ownership of the EV site installations and the EVSE, and contends the Commission must allow for third party ownership of the EV site installations. Although one of the Guiding Principles of the Proposed Settlement is that the SDG&E program "must provide customer choice," Shell Energy contends there is no opportunity under either SDG&E's proposal or the Proposed Settlement for a third party to own and operate the EV site installation. Shell Energy contends that third party ownership of these facilities will do the following: reduce the utility costs borne by ratepayers; promote a competitive market for EV charging; increase the number of market participants; provide EV charging customers with a real service alternative; and prevent mischief if SDG&E owns both the upstream infrastructure and the EV site installation, and is also the electricity supplier. Shell Energy also points out that under the Proposed Settlement, SDG&E will be reviewing the site hosts' load management tactics for consistency with the

Guiding Principles, which could lead to SDG&E's regulation of the fees charged at the EV stations. In its comments on the Settlement Motion, Shell Energy also raised concern about the amount of the participation payment that site hosts would be responsible for, and to ensure that such a payment does not result in a competitive disadvantage for some market participants.

The second issue that Shell Energy raises is that the EV station owner or operator should be given the option of selecting its own electricity provider under direct access, or SDG&E, as its electricity provider. If the Commission allows SDG&E to own the EV site installations, Shell Energy contends that SDG&E should be required to purchase electricity from an electric service provider (ESP). Shell Energy contends that this new ESP load should not be subject to the cap on direct access under Public Utilities Code Section 365.1(b) and D.10-03-022, and that any new load should be exempt from the Power Charge Indifference Adjustment and any other departing load charges because this is unanticipated incremental load.

4.2.8. The Utility Reform Network (TURN)

TURN sponsored testimony in this proceeding and filed various pleadings. TURN supports the goal of promoting the adoption of PEVs in California. However, TURN does not believe that SDG&E's original VGI proposal and the Proposed Settlement are the best ways to achieve that goal, and that ratepayers should not have to bear all of these costs.

TURN recommends that SDG&E's original VGI proposal and the Proposed Settlement be rejected. TURN points out that under both of these proposals, the size of the program, and the ownership of the EV charging infrastructure, remain unchanged. TURN further contends that SDG&E's proposal and the Proposed Settlement are not reasonable or in the public interest because SDG&E's

ratepayers bear all of the risk, while SDG&E is providing ratepayer subsidized site installations and EVSE to site hosts for free or at a minimal cost. Although the Proposed Settlement is signed by 17 parties, TURN contends that virtually all of these parties supported SDG&E's application and did not raise major concerns.

TURN contends that the ratepayer funding and size of the VGI program raise competitive concerns. This may discourage third parties from investing in site installations in the future because of the 100% ratepayer funding of SDG&E's site installations.

TURN also contends that SDG&E's VGI program poses a significant risk of stranded costs to ratepayers because this is a new and developing market in which there is no guarantee that the EV site installations will be utilized, or that the additional EV site installations will result in the widespread adoption of EVs. In addition, future changes in EV charging technology and battery life could affect the utilization of the site installations. TURN further asserts that "the majority of the benefits go to the electric vehicle drivers, the owners of the properties that get free EV charging equipment, and utility shareholders." (TURN September 4, 2015 Opening Brief at 2.)

Although a participation fee was agreed to in the Proposed Settlement, TURN contends it is likely that such a fee will be nominal, and will not cover a substantial portion of the EV charging infrastructure costs. TURN also contends that SDG&E's cost effectiveness analyses, as described in TURN's testimony, demonstrates that the ratepayer benefits of the proposals are less than one-fifth of the costs of the program, and that non-participating ratepayers may not see any benefits. TURN further contends that SDG&E has failed to justify the need for 5500 charging stations, and that SDG&E's ownership of the site installations

and charging stations is not required in order to test the potential benefits of the VGI rate. TURN also asserts that given the other market barriers to EV adoption (e.g., cost of EVs, range anxiety, charging time, battery replacement costs, and low cost of gasoline), there is no certainty that transportation electrification will be the most effective solution to reducing transportation emissions.

Regarding the Proposed Settlement's provision for SDG&E to submit an interim progress report two years after the VGI program is launched, TURN agrees with UCAN's comment on the Settlement Motion that "the interim progress report is not a sufficient check on the VGI Program because there is no requirement that SDG&E pause or suspend the program if the findings show it is unsuccessful." (TURN, July 2015 Reply Comments on Settlement Motion at 3.)

If the Commission decides to allow SDG&E to proceed with the original proposal or the Proposed Settlement, TURN recommends at a minimum that the program be phased in two parts, and with sufficient off-ramps to ensure that the program can be paused or terminated early if the program is not successful in promoting the adoption of EVs in SDG&E's service territory. The first phase should be a limited scale pilot to test the assumptions that form the basis of the program. Data collection and a report should occur, which would then trigger the start of the regulatory process for a second phase through the filing of a new application. TURN also recommends that the Commission require some sharing of costs and risks through a shareholder performance mechanism that places 10% of the capital costs at risk based on performance, as described in its opening brief and testimony. In addition, TURN recommends some contribution from site owners, that some of the fixed costs be included in the EV charging rate, and that site hosts be charged for special facilities pursuant to SDG&E's electric Rules 15 and 16. TURN also recommends that SDG&E be required to remove the EV site

installations from ratebase if the site installations are not regularly used for one year.

Instead of authorizing SDG&E to proceed with its original VGI proposal or the Proposed Settlement, TURN recommends that TURN's proposal be adopted instead. As described in its opening brief and testimony, TURN's proposal recommends that SDG&E be allowed to install and maintain make ready stubs at 275 MUDs to support 2750 charging stations.

TURN contends that locating the site installations at MUDs is more likely to result in the adoption of EVs because all relevant studies emphasize the need for home charging, and MUDs are currently underserved by EV charging. The make-ready stubs would be composed of the supporting infrastructure for the charging equipment. The make ready stubs would allow the site host to retain ownership of the charging stations, instead of the charging stations being owned by SDG&E as provided for in SDG&E's original proposal and the Proposed Settlement. The Proposed Settlement's VGI Rate-to-Host option supports TURN's recommendation for SDG&E to build make ready stubs because under the Proposed Settlement, site hosts have the option of choosing the VGI Rate-to-Host option. Under TURN's proposal, this would allow the Commission to test whether the deployment of the make ready stubs will encourage EV market growth in a newly developing market.

TURN also contends that SDG&E should choose circuits with representative load shapes, instead of testing the majority of circuits in SDG&E's service territory. In addition, under TURN's proposal, the site host would select and pay for its own EVSE. TURN contends this shifts the technology risks to site hosts rather than on ratepayers, and allows the site hosts to select the EVSE and services that best meets their needs. Requiring the site host to purchase its EVSE

will also result in the site host having a financial interest in the installation of EV charging infrastructure at its site.

TURN's proposal would be subject to a cost cap of $15 million, which would be composed of $10.809 million for capital, $2.611 million for O&M expenses, and an allowance for unforeseen expenditures. TURN contends that its proposal would achieve "most of the EV adoption benefits and data collection benefits at a significantly lower cost." (TURN, September 18, 2015 Reply Brief at 9.)

TURN contends that SDG&E's VGI program fails to comply with Pubic Utilities Code Sections 453 and 783. TURN points out that pursuant to SDG&E's electric Rules 15 and 16, the installation of a second service line extension requires the customer to pay for any special or added facilities beyond the service line extension. TURN contends that under the VGI program, the trenching and conduits associated with the EVSE would have to be paid for by the ratepayers. TURN contends that SDG&E would waive Rules 15 and 16, which would violate the provisions of Public Utilities Code Sections 453 and 783.

TURN also contends that pursuant to Public Utilities Code Sections 740.3 and 740.8, the Commission must ensure that any ratepayer funded costs must provide direct benefits to ratepayers. These direct benefits must be in the form of safer, more reliable, or less costly service. TURN contends that the cost effectiveness test that SDG&E used demonstrates that the program is not cost effective, and SDG&E has not demonstrated that the VGI program will result in direct benefits to ratepayers.

SDG&E attempts to justify the funding of the VGI program by ratepayers as similar to taxpayer funding. TURN contends that SDG&E's argument ignores the fact that taxpayer funding comes from all taxpayers, whereas funding of the

VGI program would only be by ratepayers. TURN reminds the Commission to keep this in mind before using ratepayer funds for the VGI program that in its view primarily benefits SDG&E, site hosts, and EV drivers.

SDG&E requests that the Commission determine that SDG&E's VGI program is eligible to receive funding from the revenues generated through the sale of cap-and-trade allowances. TURN opposes SDG&E's request. TURN contends that SDG&E has not demonstrated that the VGI program meets the regulatory requirement that governs the use of cap-and-trade allowances because under the Proposed Settlement non-ratepayers can use the EV charging. TURN further contends that that in order to qualify for this funding, SDG&E must demonstrate that the installation of the EV charging stations is the cause of the expanded EV adoption which results in the GHG reductions. TURN also contends that before the Commission authorizes the use of the cap-and-trade allowances, that the Commission carefully consider SDG&E's request along with other alternative projects.

4.2.9. Utility Consumers' Action Network (UCAN)

UCAN sponsored testimony in this proceeding and filed various pleadings. In general, UCAN "supports the goals of EV grid integration that encourages EV ownership while avoiding the contribution of EV demand to the coincident system peak and the individual customer non-coincident peaks thus avoiding the need to add new generation and [transmission and distribution] capacity as the EV market grows." (Exhibit UCAN-1 at 6.) However, UCAN disagrees with the approach taken in SDG&E's original VGI proposal, and in the Proposed Settlement, and recommends that both approaches be rejected. UCAN contends that the Proposed Settlement fails to address concerns about the size, length, cost, and utility ownership of the VGI program.

As more fully described in its testimony, comments on the Settlement Motion, and its opening brief, UCAN remains concerned about the following in the Proposed Settlement:

- The VGI pilot sample size of 5,500 charging stations is too large, especially in light of the existing 240 non-single family residential locations with about 730 EV charging stations;
- SDG&E's cost effectiveness analysis is flawed, and it is uncertain whether ratepayers will benefit;
- The cost of the VGI proposal is too high, with $59 million in rate base and almost $103 million in total costs, yet SDG&E refers to this program as a pilot when the VGI program is much larger than a traditional pilot;
- The recovery of the capital cost of the charger equipment and other program and administrative expenses takes too long and will not be recovered until 2037;
- SDG&E favors utility-owned EVSE which increases ratebase, while others favor leaving EVSE investment to non-utility third party investors, and installation of make ready stubs only;
- The VGI program has many goals other than cost effectiveness, but the protocol and data requirements to assess these issues are not well defined;
- The decision to install 5,500 charging stations seems to focus on contributing to the Governor's EV goals of one million EVs in California by 2020, rather than to test the cost effectiveness of the program or to test grid integration using the VGI rate;
- There are no off ramps or exit strategies to terminate or redesign the program in the event the preliminary results of the pilot prove to be unsuccessful, and the Proposed Settlement's interim progress report is not designed to lead to any changes to the VGI program. UCAN agrees with TURN's suggestion that the VGI program be divided into two phases.

- Utility ownership of EVSE may be a less successful strategy than utility facilitation and stimulation of direct private and public sector investment in EVSE and operations.
- The amount of the program participation payment in the Proposed Settlement has not been defined, and is not the equivalent of having "skin in the game."
- Under the Proposed Settlement, the PAC's authority is advisory only, and SDG&E would be free to disregard any advice that is offered.
- The third party vendors of EVSE are permitted under the Proposed Settlement to offer site hosts additional services.
- Under the Proposed Settlement, the site host is permitted to add additional charges for the EV drivers who use the charging stations so long as the site host provides a plan which explains its load management tactics.

UCAN recommends that a smaller and less expensive pilot program be adopted. As set forth in UCAN's briefs and its testimony, UCAN's recommended approach is to make changes to SDG&E's original VGI proposal as described below. UCAN contends that its recommendation will allow for more third party involvement, and provide the Commission and SDG&E with valuable information regarding the pilot at a much lower and reasonable cost to ratepayers. UCAN recommends the following:

1. Reduce the size of the VGI pilot to the first 150 site installations installed over two years. A second phase after the first 150 may be acceptable if the initial cost effectiveness tests are positive.
2. Limit 50 to 75 of the 150 site installations to utility owned. The remaining 75 to 100 should be designed to provide infrastructure only (i.e., make ready stubs) with non-utility parties owning the actual site installations.
3. Test the dynamic VGI rate against other fixed period EV TOU rates to assess potential free ridership, incremental EV purchases, and incremental charger use by all owners,

comparing the VGI rate test group relative to the EV TOU control group.

4. Establish quantifiable site selection criteria to ensure sufficient capacity utilization of the EVSE to ensure positive cost effectiveness results, e.g., number of vehicles expected at each location, minimum standards for site installation capacity utilization.

5. SDG&E should focus initially on workplace site locations. The workplace installations draw on the entire population of EV drivers residing at both single-family residences and MUDs. Focusing on MUDs would only attract the incremental EV charging usage from the MUDs. Workplaces also offer the best sites for the testing of grid management during the day.

6. Tailor the charging stations per site to the size of the workplace or MUD site location instead of 10 charging stations at each site. The size of the potential workplace or MUD sites should determine the optimal number of charging stations per station. Site installations should be modular if possible, so as to permit expansion or to reduce investment, and thus avoiding the risk that the expected charger use may not materialize.

7. Prior to any further installations, the initial cost effectiveness results should be reviewed to determine whether the pilot should be terminated, expanded or redesigned. The cost effectiveness results should also determine whether utility-owned or infrastructure only installations have been more successful in terms of ratepayer cost responsibility, grid integration, incremental EV purchases, EV charger use and EV miles driven.

8. Refocus the program on leveraging non-utility investors in EVSE by acting more as a facilitator following the initial pilot phase of the program.

UCAN also provides other reasons as to why the size and length of SDG&E's VGI program should be reduced:

First, the size of SDG&E's proposal, as well as the Proposed Settlement, is too large and will make it difficult for third parties to compete because of the utility ownership, the number of site installations and charging stations to be deployed, and ratepayer funding of this infrastructure. UCAN contends this will provide SDG&E with an unfair market advantage. The VGI Rate-to-Host may not be a desirable option because the site host will need to prepare a load management plan, and a communications system to implement the load management plan.

Second, under the Proposed Settlement, SDG&E would own the site installations and the charging stations. However, this type of ownership will not test how the electric grid can be successfully managed in the future by the utility in the likely scenario where most of the EV site installations and charging stations are owned by third parties. UCAN contends that the VGI program should be designed to address third party ownership, such as requiring SDG&E to provide make ready infrastructure.

Third, under a make ready approach, SDG&E and its ratepayers would be indifferent as to the type of metering and billing services, and the technology to provide these services, which site hosts may want to offer.

Fourth, UCAN agrees with TURN that SDG&E's ratepayers should not be viewed as a source of taxpayer funding in order to implement the VGI program. Usually, a grant or subsidy program is paid for by taxpayers, but in this instance SDG&E's ratepayers are paying for the site installations and charging stations.

Fifth, for the reasons set forth in its testimony, UCAN contends that SDG&E's cost effectiveness analysis is flawed. UCAN contends that when the proper RIM test is used, the test demonstrates that SDG&E's VGI program is not cost effective.

4.2.10. Vote Solar Initiative (Vote Solar)

Vote Solar filed comments on the Settlement Motion, and an opening brief. Vote Solar supports efforts to promote the wider adoption of EVs and their integration into the electric grid. However, Vote Solar contends that the Proposed Settlement will allow SDG&E to select the most profitable charging opportunities in its service territory with ratepayer funding. Vote Solar also contends that the Proposed Settlement does not account for how EV batteries will be used to balance the grid instead of adding additional fossil fuel generation to meet the EV load.

Vote Solar recommends that the Proposed Settlement, as drafted, be rejected. Vote Solar recommends that the Proposed Settlement be approved if the following four additional modifications are incorporated into the Proposed Settlement.

The first modification that Vote Solar recommends is to require SDG&E, as part of the siting evaluation criteria, to include a site host's impact on alleviating grid constraints as identified in SDG&E's DRP. In addition, Vote Solar recommends that SDG&E be required to solicit applications in areas where grid constraints exist. Vote Solar contends these changes will allow SDG&E to evaluate the potential of using the VGI program to alleviate such constraints.

The second modification is to require SDG&E to establish clear criteria to demonstrate accountability, and to measure the effectiveness of the VGI goals. Vote Solar recommends that a plan be established for the measurement, evaluation, and verification of the VGI results at all of the EV site installations. Such a plan will provide the Commission with clear guidance on how to evaluate services in a uniform manner, and will ensure that site hosts know what is expected of them.

Vote Solar's third modification is that SDG&E should specify whether its EV charging equipment will have the capability for bidirectional power flow, from the grid into the EV battery, and from the EV battery into the grid. Vote Solar contends that this capability should be considered due to the size of SDG&E's proposal. If this capability is not considered, Vote Solar contends that this will fail to maximize the potential benefit of EV batteries providing grid services.

Vote Solar's fourth recommendation is to require SDG&E "to set aside $2 for every $1 spent on infrastructure upgrades for its VGI program to support interconnection of third party-owned systems outside the Applicant's program." (Vote Solar, September 4, 2015 Opening Brief at 5.) Vote Solar contends that such an "approach would preserve competition, encourage sustainable growth of the market, and create a level playing field for non-utility installations." (*Ibid.*)

5. Discussion of the Application and Proposed Settlement

5.1. Introduction to Analysis

SDG&E and the other settling parties filed their Settlement Motion requesting that the Commission approve and adopt the Proposed Settlement. The Proposed Settlement is based on SDG&E's original VGI proposal. As stated in the "Settlement Agreement Provisions" of the Proposed Settlement, "The settling parties find reasonable, as modified, SDG&E's proposal for the implementation of its VGI Program and cost recovery as described in SDG&E's Application and supporting testimony."

As summarized earlier in this decision, some of the parties presented testimony at the evidentiary hearings as to why SDG&E's VGI proposal should be adopted, while other parties proposed a variety of changes to SDG&E's

original VGI proposal. Thus, SDG&E's original VGI proposal was fully litigated in evidentiary hearings.

A review of the Proposed Settlement reveals that many of the modifications to SDG&E's VGI proposal incorporate certain positions taken by some of the parties before the Proposed Settlement was agreed upon. Due to a full vetting of SDG&E's original VGI proposal, and the positions taken by the other parties, a ruling was issued on August 5, 2015 which directed the parties to file opening and reply briefs on whether or not the Proposed Settlement, SDG&E's original proposal, or a variant of those proposals, should be adopted.

In deciding whether or not the Proposed Settlement regarding SDG&E's VGI proposal should be approved, and in deciding whether SDG&E's original VGI proposal or a scaled down version of the proposal should be adopted, there are four principal considerations that we must adhere to as we go through our analysis. We describe those considerations below, and then discuss them in more detail as we analyze SDG&E's original VGI proposal and the Proposed Settlement.

The first consideration is Public Utilities Code Section 451, which provides that the charge to ratepayers must be just and reasonable. Some of the parties contend that the cost, size, and scope of SDG&E's original VGI proposal, and the Proposed Settlement, would result in costs to ratepayers that would be unjust and unreasonable.

Since the Proposed Settlement, and SDG&E's underlying application, involves SDG&E ownership of EV charging infrastructure, the second consideration is the directive set forth in D.14-12-079. In D.14-12-079, the Commission endorsed an expanded role for the electric utilities to develop and support PEV charging infrastructure, and eliminated the blanket prohibition in

D.11-07-029 against electric utility ownership of PEV charging infrastructure. To evaluate whether a utility should be permitted to own PEV charging infrastructure, the Commission in D.14-12-079 determined that this should be decided on a case-specific approach, and that the balancing test in D.11-07-029 of weighing the benefits of electric utility ownership of PEV charging infrastructure against the potential competitive limitation that may result from that ownership, should be used.

The third consideration is the various code sections in the Public Utilities Code, the H&S Code, and the Public Resources Code, that address the deployment of EVs, EV charging infrastructure, GHG reductions, and the amount of energy that is to come from renewable sources of energy. In addition, the Governor's Executive Order and ZEV Action Plan provide further guidance concerning these various code sections, and what action needs to be taken.

The fourth consideration is that before a settlement can be approved and adopted, the Commission, pursuant to Rule 12.1(c), must evaluate whether the settlement is reasonable in light of the whole record, consistent with the law, and in the public interest.

Since the Proposed Settlement is based on SDG&E's original VGI proposal, as modified by the Proposed Settlement, we need to analyze the elements of SDG&E's underlying VGI proposal, together with the modifications that the Proposed Settlement would make, applying these four considerations

5.2. Rationale for EV Charging and SDG&E' VGI Concept

We first discuss the objectives behind SDG&E's VGI proposal and the Proposed Settlement, and our reasons for actively encouraging the deployment of EV charging infrastructure.

At the current time, there are approximately 15,000 EVs and 750 non-residential EV charging stations in the San Diego region.

The overarching objective of the VGI program, as set forth in SDG&E's original VGI proposal, and in the Proposed Settlement, is to help implement the goals set by Governor Brown and the State of California to deploy EV charging infrastructure to support one million ZEVs by 2020, and to have 1.5 million ZEVs on California's roads by 2025. Through the deployment of EV charging infrastructure, and promoting the adoption of EVs in California, SDG&E believes this will help to achieve the goal of reducing GHGs by reducing the number of vehicles that use fossil fuels, and increasing the use of renewable sources of energy by using the grid integrated VGI rate.

These goals are set forth in the Governor's Executive Order, and in various California statutes.[23] In Governor Brown's Executive Order B-16-2012, signed on March 23, 2012, the Commission and other state agencies were directed to establish benchmarks to help achieve the build-out of ZEV infrastructure able to support up to one million vehicles, and to integrate EV charging into the electricity grid by 2020. That Executive Order further directs the state agencies to establish benchmarks to help achieve the goal of having over 1.5 million ZEVs on California's roads by 2025.[24]

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[23] For example, see: Public Utilities Code Sections 399.11, 740.2, 740.3, and 740.8; H&S Code §§ 38501, 38550, 38551; Public Resources Code Section 25740; and Stats. of 2013, Ch. 418, § 1.

[24] The Governor's Executive Order subsequently became the focus of the Governor's Interagency Working Group on Zero-emission Vehicles, which issued a report entitled the "2013 ZEV Action Plan" in February 2013. The 2013 ZEV Action Plan identified specific strategies and actions that various state agencies would take to meet the milestones set forth in the Executive Order

In Section 1 of Chapter 418 of the Statutes of 2013, which enacted H&S Code § 44268, the Legislature found and declared, in part, the following:

(a) California is the nation's largest market for cars and light-duty trucks.

(b) The transportation sector is the biggest contributor to California's greenhouse gas emissions and accounts for approximately 40 percent of these emissions.

(c) California should encourage the development and success of zero-emission vehicles to protect the environment, stimulate economic growth, and improve the quality of life in the state.

(d) California should encourage and support the development of infrastructure for open and accessible public site installations.

(e) In order to reach the goal of 1.5 million electric drive vehicles in California by 2025, electric vehicle (EV) consumers need confidence that they can access a robust network of publicly available EV site installations. Any EV driver should be able to access any publicly available EV site installation, regardless of the system provider.

In H&S Code § 44258.4(b), the Charge Ahead California Initiative was established. (Stats. 2014, Ch. 530.) That subdivision states in part that two of the goals of this initiative are, (1) to place in service at least 1,000,000 zero-emission and near-zero-emission vehicles by January 1, 2023; and (2) to establish a self-sustaining California market for zero-emission and near-zero-emission vehicles in which zero-emission and near-zero emission vehicles are a viable mainstream option for individual vehicle purchasers, businesses, and public fleets. In Section 1 of Chapter 530 of the legislative enactment of the Charge Ahead California Initiative, the Legislature, in part, found and declared the following:

(e) Zero-emission and near-zero-emission vehicles, including light-, medium-, and heavy-duty vehicles and buses, can improve the

> health and welfare of all residents, especially those in lower income households and disadvantaged communities, by reducing air pollution and greenhouse gas emissions.
>
> …
>
> (h) Automakers and truck manufacturers are in early commercialization of zero-emission and near-zero-emission vehicles, which can dramatically lower smog and greenhouse gas emissions even when emissions from the production, distribution, and refining of fuels and the generation of electricity are considered.
>
> (i) Electric utilities are providing clean renewable electricity in increasing amounts to transportation customers throughout the state. Charging-service providers are beginning to deploy electric vehicle charging infrastructure throughout the state. Expanding the market for zero-emission and near-zero emission vehicles to underserved markets in California is a priority.

SB 350 (Stats. 2015, Ch. 547) was signed after the evidentiary hearings and briefing period had concluded, and is effective on January 1, 2016. Although SB 350 specifically exempts SDG&E's VGI application from the transportation electrification provisions of newly added Public Utilities Code Section 740.12 (Stats. 2015, Ch. 547, § 32) because the application was filed before the applicable date for SB 350, many of the provisions of that code section are instructive as to why the Commission should forge ahead with projects such as a VGI pilot program. Subdivision (a)(1) of Public Utilities Code Section 740.12 finds and declares, in part, the following:

> (A) Advanced clean vehicles and fuels are needed to reduce petroleum use, to meet air quality standards, to improve public health, and to achieve greenhouse gas emissions reduction goals.
>
> (B) Widespread transportation electrification is needed to achieve the goals of the Charge Ahead California Initiative….

(C) Widespread transportation electrification requires increased access for disadvantaged communities, low- and moderate-income communities, and other consumers of zero-emission and near-zero-emission vehicles, and increased use of those vehicles in those communities and by other consumers to enhance air quality, lower greenhouse gases emissions, and promote overall benefits to those communities and other consumers.

(D) Reducing emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.

(E) Widespread transportation electrification requires electrical corporations to increase access to the use of electricity as a transportation fuel.

…

(G) Deploying electric vehicles should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions.

(H) Deploying electric vehicle charging infrastructure should facilitate increased sales of electric vehicles by making charging easily accessible and should provide the opportunity to access electricity as a fuel that is cleaner and less costly than gasoline or other fossil fuels in public and private locations.

All of the above references to the Executive Order and the various statutes provide the impetus and the legal grounds for the Commission to take action to approve and authorize the deployment of EV charging infrastructure by SDG&E, although, as discussed later, not on the size and scale that the settling parties agreed to in the Proposed Settlement.

Some of the parties contend that since the Commission is not an executive agency of the state, but rather a constitutional agency, the Commission should not be obligated to follow the Governor's Executive Order to deploy sufficient

EV charging infrastructure to support one million ZEVs by 2020. However, as noted in the footnote above, there are numerous statutes which direct the Commission and other state agencies "to evaluate and implement policies to promote the development of equipment and infrastructure needed to facilitate the use of electric power … to fuel low-emission vehicles," and "to overcome any barriers to the widespread deployment and use of plug-in hybrid and electric vehicles." (Pub. Util. Code Sections 740.3(a), 740.2.) This legislative direction to encourage the development of EV charging infrastructure, to promote the widespread adoption of EVs so as to reduce GHG emissions, and to promote the use of renewable energy resources, must not be ignored. The deployment of EV charging infrastructure will help assure potential purchasers of EVs that EV charging will be available. Thus, we conclude there is sufficient legal authority for the Commission to approve and authorize some form of a VGI program to be implemented by SDG&E.

The other goal of the VGI proposal is to test the offering of a VGI rate to EV drivers, and the deployment of EV site installations and the associated EV charging stations to site hosts. The VGI rate is designed to foster prudent use of the energy on the electric grid by offering lower electricity rates to EV drivers and site hosts of the EV site installations to encourage EV charging during off-peak electricity periods, and to maximize the use of energy generated from renewable resources during off-peak periods. The VGI rate will be made available on a day-ahead basis so that the EV drivers and site hosts are aware of the price of electricity on an hourly basis for their EV charging needs. The VGI rate for different hours of the day will be calculated by SDG&E, taking into account the amount of electricity that will be generated during the various hours of the day, the price of the electricity, and anticipated congestion conditions on

the CAISO transmission grid and SDG&E's local distribution circuits, and the effect of forecast error from the supply of variable renewable energy resources. Shortly before or after the day-ahead VGI rate is established, the EV driver can then use a software application to input how much the driver is willing to pay to charge the EV, and the amount of electricity or time it will take to charge the EV. Under the Proposed Settlement, if the VGI Rate-to-Host option is selected, the site host or its selected vendor will be required to supply SDG&E with a plan for managing the EV charging load.

Although some of the parties to this proceeding may disagree with the cost, size, or scope of SDG&E's VGI pilot program, none of the parties disagree with the goal of the VGI program to optimize efficient use of available electricity. SDG&E's VGI proposal is also consistent with R.13-11-007. When R.13-11-007 was initiated, the Commission stated that the first track of the OIR would "evaluate the potential and value of vehicle-grid integration, including the use of vehicle batteries for demand response or energy storage." (R.13-11-007 at 2.) The Commission stated that this first track "will evaluate utility activities that can support VGI initiatives and seek to establish rules that allow utilities, PEV drivers, and the grid to capture safely and reliably the benefits of PEV battery storage for the managed charging, and for providing demand response ancillary services to the grid and power markets." (*Id.* at 15.)

SDG&E's VGI proposal responds to R.13-11-007 in that SDG&E is proposing a pilot program to test the potential and value of a VGI program in SDG&E's service territory. As proposed, the design of SDG&E's VGI proposal would fulfill the ZEV Action Plan's goal of reducing the negative impacts of peak-time charging and integrating renewable energy resources into the grid. (See R.13-11-017 at 15.) As described by several witnesses, the electrification of

vehicles used for transportation offers opportunities to reduce air pollution and GHGs. Under SDG&E's VGI proposal, EV charging customers will be offered varying prices at different times of each day in order to incentivize them to charge their EVs during off-peak periods, and to maximize the use of the renewable energy that is available. Thus, the EV charging load will be integrated into the available electrical capacity on the grid. This type of VGI program should, in theory, reduce the amount of new generation assets that may need to be built in the future to meet growing EV charging load and over-generation conditions. Accordingly, we find that the goal of SDG&E's original VGI proposal, and as modified in the Proposed Settlement, is a reasonable concept to pursue because it responds to the call in R.13-11-017 for utility activities that support VGI initiatives.

In addition, the VGI proposal addresses the concerns in Public Utilities Code Section 740.2 about: (1) the widespread use of PEVs and EVs and the role and development of public charging infrastructure; (2) the impact of EVs and PEVs on grid stability and the integration of renewable energy resources; and (3) the widespread use of PEVs and EVs to achieve the state's goals regarding the reduction of GHGs, obtaining more electric generation from renewable sources of energy, and the shifting of emissions reductions responsibilities from the transportation sector to the electric industry.

5.3. Cost and Size of SDG&E's VGI Proposal and the Proposed Settlement

Although the Governor's Executive Order and the applicable statutes suggest or require the Commission to take action, the actions we take must still be compatible with other applicable Public Utilities Code sections. Among these code sections is Public Utilities Code Section 451, which requires that the charges

that ratepayers pay are just and reasonable. In considering what action we need to take in terms of promoting EVs and EV charging infrastructure, that needs to be balanced with the statutory requirement of having just and reasonable rates.

Thus, the next part of our analysis is to examine the cost and size of SDG&E's original VGI proposal, and the Proposed Settlement, and whether the cost of such a program results in just and reasonable rates. We address the cost and size of SDG&E's VGI proposal first because those are the two largest disagreements that the non-settling parties have with SDG&E's original VGI proposal, and with the Proposed Settlement.

Our analysis of the cost of the program refers to the amount that SDG&E and the settling parties are requesting for the VGI program. The size of the VGI program refers to the number of EV site installations and EV charging stations that SDG&E and the settling parties request be deployed, and the duration of the VGI program. We refer to the scope of the VGI program to mean the various program elements of how the program will be implemented and managed on a daily basis, and the disagreements that some parties may have with particular program elements. We discuss the concerns with the scope of the program elements towards the end of this discussion.

The cost of both SDG&E's original VGI proposal and the Proposed Settlement are the same. SDG&E and the settling parties are requesting almost $103 million for the duration of the VGI program. $55 million of the $103 million represents the capital costs of the EV infrastructure, and $39.4 million represents O&M costs. Recovery of these costs would take place over a span of about 22 years.

The size of SDG&E's VGI proposal, and that of the Proposed Settlement, are the same. Under both VGI programs, up to 550 EV site installations would be

deployed over a four- to five-year period, and up to 5,500 EV charging stations would be deployed throughout SDG&E's service territory. SDG&E would be the owner of both the EV site installations and the EV charging stations under both VGI proposals. However, under the Proposed Settlement, the site host would be allowed to choose the EVSE and related services from a list of vendors pre-qualified by SDG&E.

The parties whose primary interest is representing ratepayers who will be financially impacted by the utility's programs oppose both the cost and size of the VGI programs. As summarized earlier in the positions of the parties, these parties contend that SDG&E's VGI program is much larger in cost and size than any pilot programs that have been authorized by the Commission in the past. These parties, as well as others, contend that the request to install 550 site installations and to deploy 5,500 charging stations, would provide SDG&E with a competitive advantage because SDG&E will dominate the EV charging market in a few years in the San Diego region if the VGI program, as proposed, is approved. Some of the parties contend that most of SDG&E's ratepayers, who will end up paying for the program, will never use the EV charging infrastructure.

SDG&E and the other settling parties, including some groups whose primary interests are environmental in nature but whose members are also ratepayers of SDG&E,[25] recommend that the cost and size of the VGI program be approved as requested. SDG&E contends that the cost and size of the VGI program is appropriate and reasonable because it will provide sufficient

[25] These environmental concerns and interests are reflected in Public Utilities Code Sections 740.2, 740.3, and 740.8.

information and data to test the VGI rate and program. Deployment of the 550 site installations and the 5,500 charging stations over the four year sign-up period will allow for testing of the VGI program under a variety of circuit conditions. In addition, the locations being targeted by the VGI program are MUDs and workplaces, which are currently underserved by today's EV charging marketplace. SDG&E further contends that if the cost and size of the program is reduced, the sample size for testing the VGI rate will be reduced. SDG&E further contends that the rate impact on its ratepayers will be minimal, as shown in Exhibit SDG&E-3.

We are concerned with the cost of the VGI program as requested in SDG&E's application, and in the Proposed Settlement. Pursuant to Public Utilities Code Section 451, the charges to the utility's customers must be just and reasonable. In addition, before EV program costs can be passed on to SDG&E's ratepayers, the requirements in Public Utilities Code Sections 740.3(c) and 740.8 must be met.[26]

We first discuss whether the cost of SDG&E's original VGI proposal, and the VGI program in the Proposed Settlement, is just and reasonable.

Under SDG&E's original proposal, as well as the Proposed Settlement, the VGI program is intended and designed to be a pilot program. Potential site hosts will be recruited over a four year period to site an EV site installation on the site host's real property. A maximum of 550 site installations will be installed, with

[26] We are not persuaded by UCAN's comments to the proposed decision that before deciding whether the costs of the VGI program are just and reasonable under Public Utilities Code Section 451 that the Commission must first consider the cost effectiveness of the pilot project, and reject the pilot program if it is not cost effective. Instead, our analysis follows the four principal considerations that are described in section 5.1 of this decision.

approximately 5,500 charging stations. Data from the pilot will then be reported to the Commission in order to determine whether the VGI program should be expanded at a future date.

The cost of the VGI program will be nearly $103 million over the 22-year recovery period. Some parties assert that this exceeds the cost of any pilot program, or research, development, and demonstration project, that the Commission has authorized in the past. However, SDG&E and other proponents of the Proposed Settlement contend that the cost of the VGI program is appropriate and necessary in order to achieve the state's objectives of deploying EV charging infrastructure to support one million ZEVs by 2020, and to have 1.5 million ZEVs on California roads by 2025.

Although the rate impact on SDG&E's ratepayers would be less than half of one percent in the first year, we are concerned that the proposed deployment schedule may not result in an immediate growth of the EV market. In addition, the primary beneficiaries of SDG&E's VGI program in the near term will be the EV owners who end up using the EV charging infrastructure, and the site hosts who will receive the EVSE infrastructure in return for a grant of an easement and a participation payment. We acknowledge that over the long term there will be the societal benefits of less GHGs, and the increased use of renewable energy and avoided new power plants if EV owners take advantage of the VGI pricing structure. However, these societal benefits must be weighed with who will receive the direct benefits of the VGI program, who will end up paying for the program, and whether potential site hosts and potential EV owners will respond

as SDG&E and others predict.[27] Also, since the VGI proposal is supposed to be a pilot program, a more frequent review of the pilot program's progress is warranted as suggested by some of the parties.

SDG&E's analysis of the benefits anticipates that as a result of the deployment of the EV charging infrastructure as proposed in SDG&E's original proposal and in the Proposed Settlement, that there will be a growth in the number of EVs on California's roads. However, we are not as certain that the EV adoption rate will be as SDG&E expects. SDG&E's witness acknowledges that its analysis is "illustrative" only, and is not intended to be predictive of what will occur in the future. Also, some of the parties opposed to SDG&E's original VGI proposal and the Proposed Settlement cast doubt on how the projected EV adoption rate was derived, and whether SDG&E's projections will actually materialize given the challenges of convincing consumers to switch from gasoline fueled vehicles to EVs. As testified to by various parties, these challenges include: the price of EVs; educating consumers about the price of EVs with rebates or grants; range anxiety; sufficient EV charging infrastructure at residences and other locations; the trend toward longer EV mileage ranges; and the cost of operating an EV versus a gasoline vehicle.

With regard to the size of the project as proposed in SDG&E's original VGI proposal and in the Proposed Settlement, we are persuaded that a scaled down project is a more appropriate project, rather than spending $103 million to deploy 550 site installations, and 5,500 charging stations over a four to five year time

[27] Some of these concerns are also considerations that the Commission is to take into account under Public Utilities Code Section 740.1 when evaluating a utility's research, development and demonstration project.

period. In order to secure the sites needed to locate the EV charging site installations, the property owners of prospective MUD and workplace sites will need to consent, provide an easement to SDG&E, and to pay a participation fee under the Proposed Settlement. Although the theory of implementing and securing such sites makes sense on paper, getting sufficient property owners to agree to these preconditions may prove to be more difficult. In addition, since the EV charging market is still developing and battery technology is changing, there are still many unknowns regarding the EV market, and how potential site hosts and EV owners will respond. For all of the above reasons, we are not convinced that it would be a wise use of ratepayer monies to authorize a pilot project of the cost and size contemplated in SDG&E's original VGI proposal and in the Proposed Settlement. Instead, the cost and size of the VGI pilot project should be reduced to test how EV owners will respond, and how property owners will respond to receiving a free EV site installation and EV charging stations in return for an easement allowing such use, and paying a participation fee to participate in the VGI program. A scaled-down pilot size will also avoid deploying infrastructure on a huge scale while battery technology is still evolving.

Related to the cost and size of SDG&E's original VGI proposal, and the Proposed Settlement, is the duration of the program. The sign-up period to become a site host would last for four years. An interim report regarding the progress of the VGI program would not be submitted until two years after the VGI program is launched, at which time parties could comment on the report.

We are not comfortable with having a pilot program that stretches into five years, and for which ratepayers will be paying over a period of 22 years. In addition, we are concerned with the schedule in SDG&E's original VGI proposal,

and in the Proposed Settlement, that a progress report about the VGI program will not be submitted until two years into the program. Neither of those two time periods suggests that the duration of this program is a pilot program. We do not want to approve and authorize a pilot project that will cost $103 million without being able to timely review and evaluate the progress of the VGI program. Also, it would be foolhardy to authorize a pilot project of this amount, using ratepayer money, without some assurance that EV drivers will be using these site installations and charging stations on a frequent basis, and that such a deployment will contribute materially to the widespread adoption of EVs for everyday transportation.

For the reasons stated above, we conclude, pursuant to Public Utilities Code Section 451, that the charges SDG&E's ratepayers would have to pay for SDG&E's original VGI proposal, or the VGI program in the Proposed Settlement, would be unjust and unreasonable.

5.4. Applying the EVSE Ownership Balancing Test

The cost and size of SDG&E's original VGI proposal, and the Proposed Settlement, also raise cost-related issues about whether SDG&E should be entitled to own the EVSE. Under SDG&E's VGI proposal, and the Proposed Settlement, SDG&E would own the EV site installation and the associated EV charging stations. If we adopt a scaled down version of the Proposed Settlement, the issue of utility ownership of EVSE still remains. In this section of the decision, we address the EVSE ownership issue that was addressed in D.14-12-079.

In D.14-12-079, the Commission set aside the prohibition adopted in D.11-07-029 that electric utilities could not own EV charging infrastructure. The Commission adopted rules in D.14-12-079 to expand the utilities' role in the

development and ownership of electric vehicle infrastructure. These rules consist of using a case-specific approach to assess "any proposed utility program based upon the facts of specific requests," and a balancing test. (D.14-12-079 at 8.) The balancing test is based on the test that was adopted in D.11-07-079, which weighs the benefits of utility ownership of the EV charging infrastructure against the competitive limitation that may result from that ownership.

In applying the balancing test, the Commission stated in D.14-12-079 at 8, that the Commission will assess "the likely competitive impact on the market segment targeted, and whether any anticompetitive impacts can be prevented or adequately mitigated through the exercise of existing rules or conditions." In conducting such an approach, the Commission will examine, at a minimum, the following:

1) The nature of the proposed utility program and its elements; for example, whether the utility proposes to own or provide charging infrastructure, billing services, metering, or customer information and education.
2) Examination of the degree to which the market into which the utility program would enter is competitive, and in what level of concentration.
3) Identification of potential unfair utility advantages, if any.
4) If the potential for the utility to unfairly 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. (D.14-12-079 at 8-9.)

The Commission also stated that "the benefits analysis applied in the balancing test will rely heavily on the guidance from Pub. Util. Code § 740.8." (D.14-12-079 at 9.)

Under both the original VGI proposal, and the Proposed Settlement, SDG&E would own the EV site installations and the EV charging stations. Under the Proposed Settlement, site hosts or their designees would have two additional options. The first is that the site host or designee can choose to take service under the VGI Rate-to-Host billing option. The second option is that the site host or designee will be allowed under either the VGI Rate-to-Driver or the VGI Rate-to-Host billing options to choose the EVSE and related services that they want, so long as the vendor has been preapproved by SDG&E. These two options appear to mitigate potential anticompetitive impacts by allowing the site host to offer VGI or other forms of pricing to site users, and by allowing preapproved third party providers to offer EVSE and related services to the site hosts. This allows site hosts to offer similar or enhanced EV charging services to EV owners. Having a choice of EVSE providers and other services promotes competition and innovation among the various providers of the EVSE and related services. We also note that the addition of these two options in the Proposed Settlement helps to resolve the unfair competition concerns that were raised originally by potential competitors.

As part of the balancing test adopted in D.14-12-079, the weighing of the benefits of utility ownership is to rely heavily on the guidance set forth in Public Utilities Code Section 740.8. Before its amendment in 2015 by SB 350, the ratepayer "interests" in Public Utilities Code Section 740.8 means direct benefits that includes activities that "promote energy efficiency, reduction of health and environmental impacts from air pollution, and greenhouse gas emissions related to electricity and natural gas production and use, and increased use of alternative fuels."

SDG&E points out that one of the benefits of SDG&E owning the EV charging infrastructure is that this will ensure that the EVSE remains in working order. The other benefits are that it will allow SDG&E to test the VGI rate, and the deployment of the EV site installations and charging stations will help spur the growth of EV charging infrastructure and the adoption of EVs.

In addition, applying the "interests" of ratepayers, as described in Public Utilities Code Sections 740.3 and 740.8, another benefit is that the VGI rate could result in lower electricity rates for EV charging, if EV owners respond to the VGI rate and charge at certain times of the day. Also, the EV charging under the VGI rate could absorb and maximize the electricity output from the use of renewable energy resources, reduce the use of fossil fuels in automobiles and for generating electricity, and promote the use of EV charging at the underserved MUDs and workplaces.

As testified to by several parties, there are three primary competitors in the San Diego area that are offering EV charging site installations or charging stations. If SDG&E's original proposal, or the Proposed Settlement, is approved, SDG&E would be the largest provider of EV charging site installations and EV charging stations once the VGI program is fully built out. SDG&E contends, however, that according to some projections, if SDG&E is allowed to deploy 5,500 charging stations, SDG&E will control less than 20% of non-residential EVSE in 2020, and only about 9% of EVSE in 2023. SDG&E's market share of the EV charging stations is expected to drop if the EV market develops as projected, which should allow other participants to enter the EV charging market.

ChargePoint and CESA noted in their testimony that SDG&E's original VGI proposal amounts to a vertically integrated ownership model. Several parties expressed concern that this vertical concentrated ownership by SDG&E of

the site installations and charging stations, and the offering of this infrastructure to site hosts for free or for a participation payment, could undercut the ability of third party providers of EVSE and EV charging services to compete in the EV charging marketplace. This could also lead to third party providers leaving the market. However, at least two potential competitors of SDG&E have agreed to the Proposed Settlement, which suggests that their competitive concerns have been addressed or resolved by the Proposed Settlement.

Other parties oppose SDG&E's ownership of the EV site installations and charging stations because SDG&E plans to include this infrastructure in ratebase, which would earn a return over 22 years.

Based on the testimony presented, if SDG&E's original VGI proposal or the Proposed Settlement is authorized by the Commission, SDG&E's ownership of the EVSE could pose competitive problems for nonutility vendors of EVSE and related EV charging services during the initial deployment by SDG&E of the EV charging site installations and charging stations. The competitive problems that would arise spring from the number of site installations and charging stations that SDG&E would own and control after four or five years of the VGI program. We recognize the need for utility involvement in spurring the development of an EV charging infrastructure, but at the same time we must be cognizant of the competitive impacts that SDG&E's concentrated ownership could have on third parties, especially during the early years of deploying EV charging infrastructure. If the EV market does not develop as projected after four to five years, SDG&E will be one of the leading providers of EV charging in the San Diego region at the end of that period.

As part of the balancing test adopted in D.14-12-079, we must also consider whether these potential anticompetitive impacts can be mitigated through rules,

conditions, or regulatory protections. SDG&E points out that any anticompetitive impacts that could arise as a result of SDG&E's ownership are offset by the Commission's regulatory authority over SDG&E, and over the VGI rate that can be charged. Another mitigation measure that could be taken, as some of the non-settling parties have suggested, is to reduce the cost and size of the VGI program, which would reduce the number of EV site installations and charging stations that SDG&E would own.

Applying the balancing test in D.14-12-079 and D.11-07-029, the ratepayers' interests and benefits as described in Public Utilities Code Sections 740.3 and 740.8, and the concern of unfair competition in Public Utilities Code Section 740.3(c), we conclude that EVSE ownership by SDG&E should be permitted in a scenario as proposed by SDG&E in the Proposed Settlement, or in a scaled down VGI pilot program patterned after the Proposed Settlement.

In applying the balancing test and the ratepayers' interest test to SDG&E's original VGI proposal, we reach the opposite result. We conclude that the balancing test for utility ownership of EVSE would not be met, as applied to SDG&E's original VGI proposal, because third party suppliers and operators would be prevented from offering EVSE and related services to the site hosts that SDG&E would be targeting. In addition, SDG&E would be able to offer the site installations and the EV charging stations at no cost to potential site hosts. This amounts to a ratepayer funded subsidy of the costs of deploying EV charging infrastructure, which would undercut the ability of third party providers to enter the marketplace. Thus, applying the EVSE ownership balancing test to SDG&E's original VGI proposal, we conclude that under the facts of that proposal, SDG&E should not be allowed to own the EVSE infrastructure.

Applying the balancing test to SDG&E's ownership of the EV charging infrastructure in the Proposed Settlement, or to a scaled down version of the Proposed Settlement, we conclude that the advantages of allowing SDG&E to own the EV site installations and the EV charging stations would be in the ratepayers' interests and outweigh the disadvantages that could result from a lack of competition. That is because under the Proposed Settlement, site hosts or their designees, can choose the VGI Rate-to-Host option, which allows site hosts to offer a similar VGI rate or other pricing option to EV charging customers. In addition, the Proposed Settlement allows the site host or its designee to select the EVSE and related EV charging services from preapproved vendors, which allows third party providers to offer competing EVSE and EV charging services. In addition, under the Proposed Settlement, the site host would have to pay a participation fee which will help offset a portion of EV charging infrastructure costs. Under a scaled down version of the Proposed Settlement, SDG&E ownership of EV charging infrastructure would be acceptable because there would be fewer EV site installations and charging stations owned by SDG&E.

To help mitigate possible anticompetitive impacts, and to encourage and promote the growth of private investment in EV infrastructure, particularly in the market segments that do not receive utility ratepayer funding through the VGI pilot program, additional regulatory protection and guidance is needed. In order to achieve the goal of deploying sufficient EV charging infrastructure to support the needs of one million ZEVs by 2020, and to have 1.5 million ZEVs on California's roads by 2025, we recognize that additional investments are needed beyond the VGI pilot program at MUDs and workplaces. In addition to the targeting of MUDs and workplaces, additional efforts at encouraging participation at single family residences and public charging venues is needed.

In order to prevent and mitigate potential anticompetitive activities, we agree with some of CESA's recommendations that certain procedures be implemented to ensure that third party EV site installations are not hampered or delayed. As pointed out in its comments on the proposed decision, we also recognize that SDG&E has certain protective mechanisms in place. We adopt the recommendation of CESA that SDG&E create appropriate firewalls to ensure that any non-utility EV site installations performed by SDG&E, or its contractors, that use third party charging platforms and applications, are not shared with or disclosed to personnel at SDG&E engaged in EV-related activities. We also adopt CESA's recommendation that SDG&E adopt policies and procedures to ensure that third party EV site installations are queued fairly for the interconnection process, and that the SDG&E site installations are not given priority or any preference. In addition, we adopt CESA's recommendation that SDG&E provide third party EV charging developers with information about the distribution system upgrade costs and load data for potential EV site installations. These adopted recommendations, along with the additional language recommended by SDG&E in its comments, have been incorporated into the alternative VGI program terms set forth in Attachment 2 of this decision.

We do not adopt CESA's recommendation that the data regarding the VGI pilot program costs be collected independently because the Commission and its staff have the authority to inspect the books, accounts, papers, or records of the public utility. (Public Utilities Code Sections 313, 314.) Also, we do not adopt CESA's recommendation that procedures be established to preapprove or shorten the time to review design configurations because each EV site installation is site-specific. However, we encourage SDG&E to work with the

PAC if such standardization is needed to achieve the EV infrastructure deployment goal.

5.5. Public Utilities Code Sections 740.3 and 740.8

Next, we discuss the cost-related issue of what needs to occur before the costs associated with the development of equipment or infrastructure for EVs can be passed on to electric ratepayers. Public Utilities Code Section 740.3(c) provides in pertinent part:

> The commission's policies authorizing utilities to develop equipment or infrastructure needed for electric-powered … low-emission vehicles shall ensure that the costs and expenses of those programs are not passed through to electric … ratepayers unless the commission finds and determines that those programs are in the ratepayers' interest. The commission's policies shall also ensure that utilities do not unfairly compete with nonutility enterprises.

Thus, before the costs of the VGI program can be passed on to SDG&E's ratepayers, the Commission must find and determine: (1) that the program is in the ratepayers' interests; and (2) that the utility does not unfairly compete with nonutility enterprises. This unfair competition provision is similar to the balancing test that is to be applied to utility ownership of EVSE, as discussed in the previous section of this decision.

Public Utilities Code Section 740.8 is instructive because it defines the "interests" of ratepayers as it is used in Public Utilities Code Section 740.3(c).

Prior to January 1, 2016, Public Utilities Code Section 740.8 defined the "interests" of ratepayers as follows:[28]

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[28] In the pleadings of the parties filed in these proceedings, the parties referred to the pre-January 1, 2016 version of Public Utilities Code Section 740.8 as the basis for their arguments regarding how Public Utilities Code Section 740.3(c) should be interpreted.

> As used in Section 740.3, 'interests' of ratepayers, short- or long-term, mean direct benefits that are specific to ratepayers in the form of safer, more reliable, or less costly gas or electrical service, consistent with Section 451, and activities that benefit ratepayers and that promote energy efficiency, reduction of health and environmental impacts from air pollution, and greenhouse gas emissions related to electricity and natural gas production and use, and increased use of alternative fuels.

Then, as a result of SB 350, which became effective on January 1, 2016, Public Utilities Code Section 740.8 was amended to now read:

> As used in Section 740.3 or 740.12, 'interests' of ratepayers, short- or long-term, mean direct benefits that are specific to ratepayers, consistent with both of the following:
>
> (a) Safer, more reliable, or less costly gas or electrical service, consistent with Section 451, including electrical service that is safer, more reliable, or less costly due to either improved use of the electric system or improved integration of renewable energy generation.
>
> (b) Any one of the following:
>
> (1) Improvement in energy efficiency of travel.
>
> (2) Reduction of health and environmental impacts from air pollution.
>
> (3) Reduction of greenhouse gas emissions related to electricity and natural gas production and use.
>
> (4) Increased use of alternative fuels.
>
> (5) Creating high-quality jobs or other economic benefits, including in disadvantaged communities identified pursuant to Section 39711 of the H&S Code.[29]

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[29] Both versions of Public Utilities Code Section 740.8, as well as Public Utilities Code Sections 701.1, 740.2, and 740.3, rebut CFC's contention that the VGI pilot program is outside the scope of SDG&E's provisioning of utility service. For example, Public Utilities Code

Footnote continued on next page

TURN originally argued that the reference to "direct benefits" in the pre-January 1, 2016 version of Public Utilities Code Section 740.8 should be interpreted to only refer to "safer, more reliable, or less costly gas or electrical service." In addition, since the "direct benefits that are specific to ratepayers" phrase precedes the phrase pertaining to "activities that benefit ratepayers" of that code section, TURN contends that the Legislature intended that these "direct benefits" should be preferred over the benefits to ratepayers that promote energy efficiency, reduce health and environmental impacts from air pollution, and GHG emissions related to electricity and natural gas production and use, and increase the use of alternative fuels. We do not agree with TURN's interpretation of the intent of Public Utilities Code Section 740.8 as it existed prior to the amendment by SB 350. The first use of the conjunction "and" in Section 740.8, as it existed before January 1, 2016, clearly suggests that both "benefits that are specific to ratepayers" and "activities that benefit ratepayers" are to be considered. Also, the reference to "direct benefits" refers to both "benefits that are specific to ratepayers" and to "activities that benefit ratepayers," and therefore that code section does not prefer "direct benefits that are specific to ratepayers" over "activities that benefit ratepayers."

Section 701.1(a) states in part that "in addition to other ratepayer protection objectives, a principal goal of electric and natural gas utilities' resource planning and investment shall be to minimize the cost to society of the reliable energy services that are provided by natural gas and electricity, and to improve the environment…." In addition, Public Utilities Code Section 740.2(f) provides that the Commission is to adopt rules to address among other things: "The impact of widespread use of plug-in hybrid and electric vehicles on achieving the state's goals pursuant to the California Global Warming Solutions Act of 2006 and renewables portfolio standard program and what steps should be taken to address possibly shifting emissions reductions responsibilities from the transportation sector to the electrical industry."

TURN's original argument is now moot in light of the amendment to Public Utilities Code Section 740.8 as made by SB 350, as quoted earlier. As amended, Public Utilities Code Section 740.8 no longer describes "direct benefits" as referring to "benefits that are specific to ratepayers in the form of safer, more reliable, or less costly gas or electrical service." Instead, "direct benefits" refers to the benefits listed in subdivision (a), and any one of the benefits listed in subdivision (b) of Public Utilities Code Section 740.8.Thus, in deciding whether the costs of the VGI pilot program can be passed on to SDG&E's ratepayers, the benefits resulting from such costs must be consistent with the benefits described in § 740.8. As a result of the VGI program, all customers, including the EV charging customer or the site host, are likely to receive "less costly" electrical service if the EV owner charges during the off-peak periods as determined by SDG&E's VGI rate, and the VGI rate is integrated into the grid which takes into account the conditions on the grid and the availability of renewable sources of energy during off-peak periods. As some of the witnesses testified, the VGI program can reduce costs by eliminating or reducing the need for additional generating capacity to meet the growth in EV charging demand.[30] Consistent with Public Utilities Code Section 740.8(b), the other direct benefits of the VGI program that accrue to all ratepayers are the following: (1) it could promote accelerated adoption of EVs which will promote the efficiency of travel; (2) it could reduce the health and environmental impacts

[30] In addition, the VGI service meets the "safer," "more reliable," and "less costly" interests of ratepayers in Public Utilities Code Section 740.8(a) because: (1) all of the construction and installation of the EV charging infrastructure will be performed safely, and to code, by licensed electrical contractors with EV infrastructure training certification; and (2) the VGI service will be a "more reliable" and "less costly" service because it will match EV charging demand to electricity supply, including integrating variable renewable sources of energy.

from air pollution because less fossil-based transportation fuels will be utilized; (3) the deployment of more EVs could reduce the amount of GHG emissions; (4) integrating the charging of EVs with the VGI rate would incentivize consumption during peak periods of renewable energy generation, which could maximize the use of renewable and alternative fuels to power vehicles; and (5) an integrated VGI program could eliminate or lessen the need to build more electric generation assets to meet growing EV charging load.

Therefore, under the ratepayers' interests test, as set forth in Public Utilities Code Sections 740.3(c) and 740.8, the VGI program would be in the ratepayers' interest.

However, the other factor that we must consider before the EV program costs can be passed on to SDG&E's ratepayers, is that the EV program does not unfairly compete against nonutility enterprises. (Public Utilities Code Section 740.3(c).) This factor is related to the cost and size of the VGI program, as well as the balancing test, all of which we discussed earlier. If SDG&E's original VGI proposal or the Proposed Settlement is approved, some of the parties are concerned that this will lead to too much EV charging infrastructure being concentrated in the hands of SDG&E, and that SDG&E will be able to select the most profitable sites ahead of the third party competitors. They point to the number of existing EV charging stations in SDG&E's service area, and what will occur if SDG&E is allowed to own the EV site installations and charging stations as requested in the original VGI proposal and Proposed Settlement. Instead of allowing SDG&E to own the EV charging infrastructure, some of the parties favor partial or entire ownership of these assets by the site hosts or their designees. Prior to entering into the Proposed Settlement, ChargePoint asserted that since ratepayers would be fully funding the costs of the EV charging

infrastructure, that this was analogous to predatory pricing because SDG&E would be giving away the EV site installation and EV charging stations to site hosts for free. ChargePoint argued that this would make it difficult for competitive suppliers to expand their business in SDG&E's service territory.

Other parties, including SDG&E and some of those who agreed to the Proposed Settlement, point out that some of the leading EVSE manufacturers and operators have agreed to the Proposed Settlement, which is an indication that these potential competitors of SDG&E are no longer concerned that the Proposed Settlement will result in anticompetitive impacts. SDG&E also contends that since its VGI pilot is subject to the Commission's regulation and oversight, that it would be impossible for SDG&E to enjoy or exercise market power. SDG&E also notes that it would be purchasing the EVSE from other vendors, and therefore is not competing with EVSE manufacturers. SDG&E also notes that it is targeting MUDs and workplaces, which are currently underserved by the EV charging market.

In applying the unfair competition factor in Public Utilities Code Section 740.3(c) to SDG&E's original VGI proposal, we recognize that the 100% SDG&E ownership of the EV site installations SDG&E proposes to deploy, combined with the SDG&E prescribed specifications for the EVSE, may result in anticompetitive impacts on EV charging operators and EVSE manufacturers. These impacts could occur because SDG&E would be the largest EV charging operator in the San Diego region if SDG&E's original VGI proposal is approved without any changes, and the EV market does not develop as projected. Also, SDG&E would have an advantage over nonutility EVSE manufacturers and EV charging operators because SDG&E would be providing this infrastructure at no cost to the site host. As a result, nonutility competitors would be placed at a

competitive disadvantage because they would have to pay for these costs or secure grants to offset these costs. Thus, if SDG&E's original VGI proposal were to be adopted by the Commission, which we do not, it is questionable whether the costs of such a program could be passed on to ratepayers because of these anticompetitive impacts.

We note that consistent with Public Utilities Code Section 740.3(c), the Commission, in authorizing the deployment of EV infrastructure, has been directed to "ensure that utilities do not unfairly compete with nonutility enterprises." In order to encourage nonutility EV charging providers to remain in, and to enter, the EV charging market, the Commission needs to be aware of activities that could be construed as being anticompetitive.

Under the Proposed Settlement, the anticompetitive impacts would be reduced somewhat because the site hosts or their designees would be allowed to choose the EVSE and related services that they want, so long as the equipment and services are on SDG&E's preapproved list. This is likely to lead to more competitive offerings of EVSE and other kinds of related services by potential competitors of SDG&E, as well as to innovations in providing this kind of equipment and services. In addition, under the Proposed Settlement, the site hosts would be obligated to pay a participation fee, which will help offset the ratepayer funding of the VGI program to some degree. Also, under the Proposed Settlement, site hosts can choose to receive the VGI Rate-to-Host option, which provides the site host or its designee with some flexibility on how the VGI rate is offered to EV owners. One additional consideration is that under the Proposed Settlement, SDG&E would target the underserved markets of MUDs and workplaces to locate EV site installations. Since these segments are currently underserved, it is difficult to accept the argument that targeting of

these segments is anticompetitive. Thus, if the Proposed Settlement is to be adopted by the Commission, the anticompetitive impacts would be less of a concern for passing on the costs of the Proposed Settlement to SDG&E's ratepayers.

If the cost and the size of the VGI program is reduced from what is being offered in the Proposed Settlement, that would strengthen the reasoning for finding that a scaled down VGI program will not result in SDG&E unfairly competing with non-utility enterprises. That is because the number of EV site installations and charging stations owned by SDG&E would be reduced, which would result in fewer EV site installations being owned by a single EV charging operator. As a result of this reduced ownership by SDG&E, other EVSE manufacturers and operators would have an opportunity to compete and expand their presence in the EV charging market. Thus, the costs of a scaled down version of the Proposed Settlement would meet the criteria for passing those costs on to SDG&E's ratepayers.

5.6. Decisional Crossroad

Having concluded that the charges to SDG&E's ratepayers associated with the cost and size of SDG&E's original VGI proposal, and the Proposed Settlement, would be unjust and unreasonable, we arrive at a decisional crossroad. That crossroad is whether we should reject both SDG&E's original VGI proposal and the Proposed Settlement without approving any alternative program. Or should we adopt a scaled down VGI program similar to what some of the other parties have recommended in their testimony and briefs.

As discussed earlier in this decision, the legislative enactments clearly direct that action be taken to deploy EV charging infrastructure and to promote the use of EVs, to encourage the use of renewables, and to reduce GHG

emissions. If we reject SDG&E's VGI program and the Proposed Settlement without approval of some alternative program, we essentially would have to start all over again at the beginning. That is, SDG&E would have to file a new application, and we would be in the position of applying the same review and decision-making processes again. This would further delay SDG&E's efforts at developing an EV charging infrastructure.

In order to achieve the goals and targets set forth in Public Utilities Code Sections 740.2 and 740.3, the Governor's Executive Order, and H&S Code § 44258.4, the Commission and the regulated electric utilities of this state need to be proactive. Rejecting SDG&E's original VGI proposal and the Proposed Settlement outright without the adoption of an alternative program will delay efforts to reach the state's goals and targets.

However, in authorizing and approving an alternative program, the Commission needs to be cognizant of the existing code sections, including Public Utilities Code Section 451, which requires just and reasonable rates, and to weigh and balance the state's policy objectives, such as environmental concerns, with the cost and benefits of such an alternative.[31]

In order to achieve the goals and targets set forth in the Governor's Executive Order and the various statutes, there needs to be proactive involvement by the public and private sectors. Utility ratepayers will not be able to, and should not, bear all of the costs of encouraging EV infrastructure development and promoting the use of EVs. This highlights the need to balance

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[31] TURN notes that although SB 350's enactment of Public Utilities Code Section 740.12 does not apply to SDG&E's application, subdivision (b) of that code section states that "Programs proposed by electrical corporations shall seek to minimize overall costs and maximize overall benefits."

all of the competing priorities, policies, and programs, with just and reasonable rates, and in a manner that does not negatively impact the private EVSE market.

Earlier, we discussed SDG&E's original VGI proposal, and the Proposed Settlement. We discussed the cost and size of the two programs, the EVSE ownership issue, and whether the costs of those two programs could be passed on to SDG&E's ratepayers. We concluded that the cost and size of SDG&E's original VGI proposal and the Proposed Settlement would lead to unjust and unreasonable charges to SDG&E's ratepayers. In addition, we concluded that the EVSE ownership balancing test could not be met if SDG&E's original VGI proposal were to be adopted. With respect to utility ownership of EVSE in the Proposed Settlement, we concluded that EVSE ownership by SDG&E should be permitted in a scenario as set forth in the Proposed Settlement, or in a scaled down VGI pilot program patterned after the Proposed Settlement. As to whether the costs of SDG&E's original VGI proposal could be passed on to ratepayers, we concluded that it is questionable whether the costs associated with SDG&E's original VGI proposal could be passed on to SDG&E's ratepayers because of the anticompetitive impacts. For the Proposed Settlement, we concluded that the anticompetitive impacts would be less of a concern. For a scaled down version of the Proposed Settlement, we concluded that the costs could be passed on to SDG&E's ratepayers because of the reduced number of EV site installations and charging stations owned by SDG&E.

Based on our earlier discussion, as summarized in the paragraph above, we conclude that SDG&E's original VGI proposal as set forth in A.14-04-014 would result in charges to SDG&E's ratepayers that would be unjust and unreasonable under the circumstances. Accordingly, SDG&E's request in A.14-04-014 to adopt its original VGI proposal is denied.

In deciding whether the Settlement Motion's request to adopt the Proposed Settlement should be granted or not, we are guided by Rule 12.1(d) of the Commission's Rules of Practice and Procedure. Rule 12.1(d) states as follows: "The Commission will not approve settlements, whether contested or uncontested, unless the settlement is reasonable in light of the whole record, consistent with law, and in the public interest."

As discussed earlier, we have concluded that the cost and size of the Proposed Settlement would result in charges to SDG&E's ratepayers that would be unjust and unreasonable under the circumstances. Put simply, the cost and the size of the Proposed Settlement is too large for a pilot program that is designed to test the VGI rate in an environment where all of the EV charging infrastructure will be installed at MUDs and workplaces at a moderate cost or no cost to the site hosts. Since SDG&E's ratepayers would pay for all of the costs associated with the Proposed Settlement, we believe that the $103 million cost to ratepayers would be too burdensome in light of the Proposed Settlement's projected benefits. Applying Rule 12.1(d) to these concerns, we conclude that the Proposed Settlement is unreasonable in light of the whole record, and is inconsistent with the law because the charges to SDG&E's ratepayers for the Proposed Settlement would be unjust and unreasonable under Public Utilities Code Section 451. Accordingly, the Settlement Motion's request to adopt the Proposed Settlement is denied.

5.7. Alternative VGI Program Terms

5.7.1. Background

Rule 12.4 provides that when the Commission rejects a settlement, "the Commission may take various steps," including those set forth in subdivisions (a), (b), and (c) of Rule 12.4. Those subdivisions state as follows:

(a) Hold hearings on the underlying issues, in which case the parties to the settlement may either withdraw it or offer it as joint testimony,

(b) Allow the parties time to renegotiate the settlement,

(c) Propose alternative terms to the parties to the settlement which are acceptable to the Commission and allow the parties reasonable time within which to elect to accept such terms or to request other relief.

At this point in time, proposing alternative terms that are acceptable to the Commission for a VGI pilot program is a much quicker process to authorizing and adopting a pilot program. It is preferable to: having SDG&E start the clock over again by filing a new application; holding hearings on the underlying issues since most of those issues have been litigated already; or allowing the parties to renegotiate the settlement, and then submitting it to the Commission for approval.

Notwithstanding our rejection of SDG&E's original VGI proposal, and the denial of the Settlement Motion's request to adopt the Proposed Settlement, we do find merit in authorizing and adopting an alternative VGI program similar to the Proposed Settlement, but on a reduced scale and with increased oversight. As discussed earlier, none of the parties to these proceedings object to the concept of a VGI rate. The parties, however, disagree on the cost and size of the program, and with some of the elements or details of how the program should be structured.

In the discussion which follows, we use the Proposed Settlement to serve as the template for what we propose as the alternative VGI program terms that are acceptable to the Commission, and discuss the various parties' concerns with the elements and details of the VGI program. As discussed below, we have revised the Proposed Settlement to reflect the alternative VGI program terms.

The alternative VGI program terms are attached to this decision as Attachment 2. These alternative VGI program terms include: a reduction in the cost, size, and duration of the VGI pilot program; ensuring that a sufficient number of MUDs are represented in the site locations; more frequent reporting; and excluding certain customers from the costs of the pilot program. If SDG&E decides to accept the alternative VGI program terms, SDG&E is authorized by today's decision to implement what we refer to as the 2016 VGI Pilot Program.

Setting aside the cost and size of the Proposed Settlement for a moment, the Proposed Settlement offers a viable framework to deploy the VGI rate at EV charging infrastructure located at MUDs and workplaces, while allowing site hosts to choose the VGI Rate-to-Host option, and to choose the EVSE and EV charging related services from preapproved vendors (whose eligibility is determined on a rolling basis). As discussed earlier, this will help promote competition in the EV charging market. The Proposed Settlement also has procedures in place to encourage involvement by the PAC and CBOs in the siting of EV charging locations, and to suggest program changes to the VGI program. All of the above are attributes that should be retained in the terms of the alternative VGI program that we approve of today.

5.7.2. Proposals Regarding the Cost, Size, Structure, and Duration

ORA, TURN, and UCAN are the principal parties who have recommended reductions to the cost, size, structure, and duration of a VGI program for SDG&E.

As noted in the positions of the parties, ORA has made several different recommendations about what SDG&E's VGI pilot program should consist of. ORA's original recommendation was to adopt its Cal EVIP proposal as the framework to evaluate the EV applications of each of the three electric utilities.

ORA then recommended that if SDG&E's application was not denied, that the Commission should allow SDG&E to install 500 charging stations at a cost of $7.7 million, and that SDG&E's ownership of the EVSE be limited, and that the remainder be open to third party participation. In the event the Commission wants an SDG&E-owned pilot program, ORA recommended that SDG&E be allowed to install and own 200 EV charging stations. Then in its September 4, 2015 opening brief, ORA recommends that SDG&E be allowed to deploy make ready infrastructure to support 750 charging stations in Phase 1, 10% of which would be located in disadvantaged communities. Of the 750 charging stations, ORA recommends that 75% of the charging stations be deployed in MUDs, and 25% be deployed at workplaces. Phase 2 would then follow after quarterly progress reports, an interim report (after 600 charging stations have been installed), and a final report, are issued.

TURN recommends that SDG&E be allowed to install and maintain make ready stubs at 275 MUDs to support 2750 charging stations. TURN's proposal would have a cost cap of $15 million ($10.809 million for capital; $2.611 million for O&M expense, and the remainder for unforeseen expenses).

UCAN recommends that a smaller and less expensive pilot program patterned after SDG&E's original proposal be adopted. UCAN recommends that SDG&E be allowed to install 150 EV site installations over two years, and that SDG&E be allowed to own 50 to 75 of these site installations. The remaining EV site installations would be composed of make ready stubs that third parties would own. UCAN recommends that deployment of these EV site installations focus initially on workplaces. A second phase could then take place if the initial cost effectiveness tests for the 150 site installations are positive.

5.7.2.1. Make Ready Stubs

Several of the parties recommend that SDG&E prepare make ready stubs only, or that a large percentage of the EV site installations be make ready stubs. Some of these parties contend that a make ready approach will allow for more ownership of EVSE infrastructure by non-utility third parties, which will promote competition in the EV charging market.

SDG&E and some of the other parties contend that each of the utilities are proposing their own individual EV charging programs, and that each utility should be allowed to build the EV charging infrastructure in the manner that each utility requested. SDG&E contends that allowing each utility to do so will provide the Commission with data about various program approaches, and will help guide the Commission in deciding how EV charging infrastructure should be deployed in the future.

We are not persuaded by the arguments that we should require SDG&E to use a make ready approach for some or all of its EV site installations. We see value in having SDG&E retain 100% ownership of the EV charging stations to ensure that all of these ratepayer-funded charging stations are working and remain available for EV charging. Along with other EV pilot program results and available market data, the ownership of the EV charging stations by SDG&E may also inform future Commission action on EV charging infrastructure ownership, and related transportation electrification issues. For those same reasons, we do not adopt the proposals of ORA, TURN, and UCAN for a VGI program that would require SDG&E to build all, or a certain percentage of, make ready stubs. Thus, our alternative VGI program terms do not require SDG&E to install stand-alone make ready stubs.

Some of the parties suggest that a portion of the VGI program monies be set aside to help fund the deployment of EV charging infrastructure by third parties. This recommendation to set aside funds for the benefit of third parties is based in part on anticompetitive concerns. We decline to set aside part of the VGI program funds approved in today's decision to help fund the deployment of EV charging infrastructure by third parties. As discussed, the Proposed Settlement, and the alternative VGI program terms, contains provisions that will encourage third party participation and competition. In addition, this decision is addressing a pilot program for SDG&E to deploy EV charging infrastructure, and SDG&E's application is not requesting that the Commission approve funds to help subsidize deployment of EV charging infrastructure by third parties.

5.7.2.2. Cost, Size, and Duration

Next, we address the cost, size, and duration of the alternative VGI program terms.

Although the proposals of ORA, TURN, and UCAN all propose that SDG&E construct some percentage of make ready stubs, these proposals also recognize that the cost and size of an alternative program should be reduced. As described earlier in this decision, some of the other parties also recommend that the cost, size, or duration of the pilot program be reduced.

ORA proposed in its testimony that its Cal EVIP proposal be adopted. ORA's Cal EVIP proposal was the subject of the May 28, 2015 ruling in which ORA requested that the EV applications of the three electric utilities be consolidated, and that hearings be held on ORA's Cal EVIP proposal. The May 28, 2015 ruling denied ORA's motion because D.14-12-079 had already decided that each utility request should be examined on a case-specific basis. This effectively stopped ORA's Cal EVIP proposal from going forward. We

affirm the May 28, 2015 ruling. In addition, for the reasons we discussed earlier about the actions that need to be taken to fulfill the Governor's Executive Order and related legislative enactments, we do not adopt ORA's Cal EVIP proposal in this decision as it would require the Commission, the three large electric utilities, and the parties, to start at square one to develop a new framework using ORA's Cal EVIP proposal, and to have the utilities file new applications consistent with the Cal EVIP framework.

As discussed earlier, we see merit in adopting a scaled down version of the Proposed Settlement. Due in part to the uncertainty of how site hosts and potential EV purchasers will respond to the large scale deployment of 550 EV site installations, and 5,500 EV charging stations, a scaled down version of the Proposed Settlement is warranted.

In order to adequately design and test the VGI rate under a variety of circuit conditions, while deploying EV charging infrastructure in sufficient quantities and minimizing the impact on SDG&E's ratepayers, a pilot program larger than the programs suggested by ORA, TURN, UCAN, and others, should be adopted. The pilot program should be reduced in duration, and the cost and size of the VGI program should also be reduced. The alternative VGI program terms that are agreeable to the Commission are to allow SDG&E to install approximately 350 EV site installations, with approximately 3,500 charging stations, over an approximately three year sign-up period. SDG&E shall complete all of the site installations and charging stations within one-year of the close of the sign-up period. SDG&E will be allowed to rate base the costs of the site installations and charging stations over their useful lives. This alternative VGI program shall be subject to a maximum budget of $45 million for the sign-up and installation period. This $45 million limit is approximately 69% of what

is being requested in SDG&E's original VGI proposal and in the Proposed Settlement, and is based on the estimated cost of 350 EV site installations and 3,500 EV charging stations over the first three years of the VGI program, before requirement of a participation fee, as originally proposed in Exhibit SDG&E-4, Table JBA-5. As shown in that table, the three-year capital and O&M costs total to $41.449 million.

With this startup budget, we expect SDG&E to deploy a minimum of 300 EV site installations, with a minimum of 3000 charging stations. This is the minimum amount of site installations and charging stations we believe are needed to have a robust sample size to test the VGI rate. According to SDG&E's testimony, this startup budget should be sufficient to cover about 350 EV site installations, and 3500 charging stations during the three year sign-up period. Budget permitting, SDG&E shall endeavor to reach or exceed the goal of 350 site installations and 3500 charging stations during the sign-up period.[32] If sufficient funds remain at the end of the three year sign-up period, SDG&E is authorized to extend the sign-up period to increase the number of site installations and charging stations with the remaining budget.

As discussed in section 5.7.11, SDG&E shall establish a memorandum account to track its O&M costs, and apply the participation payments it receives from the site host, as an offset to the O&M costs.

SDG&E is authorized to seek cost recovery of its future capital and O&M costs in its general rate case proceedings after the $45 million is expended.

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[32] We recognize, however, that these goals may be affected by costs and conditions over which SDG&E has limited control.

SDG&E will need to justify in those proceedings the continuing viability of the 2016 VGI Pilot Program and those proposed expenditures.

With a budget of $45 million, the first year impact on a typical residential customer using 500 kWh per month in the inland and coastal zones would be about an 18 cents increase for the year, or a 0.02% increase. With the full rollout of 350 site installations and 3,500 charging stations at the end of three years, the impact in the third year would amount to about a $2.75 increase over current rates on an annual basis.

We find that the cost, size, and duration, of this alternative VGI program terms is more reflective of a pilot program because the sign-up period for potential site hosts is shorter, the overall budget has reduced the cost and size of how much EVSE infrastructure will be deployed, and the Commission will be able to evaluate the results of the pilot in a shorter period of time. The smaller pilot size is also appropriate given the uncertainties of the developing EV market, and how potential site hosts and EV drivers will respond.

5.7.3. Site Selection Criteria

Today's approval for an alternative VGI program of approximately 350 EV site installations is large enough to test the VGI rate in a variety of different circuits and under different conditions. In order to obtain a representative mix of different circuits in the 350 site installations that would be deployed under the approved alternative VGI program, we will require as part of the alternative VGI program terms in Attachment 2 of this decision, that SDG&E select site host locations that represent a diversity of electric circuits.[33]

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[33] We also note that the site selection criteria includes SDG&E's site selection criteria that is summarized in the "Background of SDG&E's VGI Pilot Program" in section 2 of this decision.

Vote Solar recommends that the site selection criteria consider how a potential site host could alleviate grid constraints as identified in SDG&E's DRP. In its testimony, GPI pointed out that possible conflicts could arise between SDG&E's DRP and its VGI proposal.

By way of background, Public Utilities Code Section 769 requires electrical corporations, such as SDG&E, to submit their DRP to the Commission by July 1, 2015. The Commission opened R.14-08-013 to guide the utilities in the development of their DRPs, and to review, approve, or modify the DRPs. The goal of the DRPs is to move the utilities toward a full integration of distributed energy resources (DER) into the utilities distribution system, planning, operations, and investment. The term "distributed resources," as used in Public Utilities Code Section 769 includes EVs.[34]

SDG&E filed its DRP in A.15-07-003, which was subsequently consolidated with R.14-08-013. SDG&E's DRP addresses how DER can be incorporated into the utility's existing and future electric distribution infrastructure and planning procedures.

We agree with Vote Solar that the site selection criteria should also be informed by the activities required of the utilities in R.14-08-013. We agree with Vote Solar's recommendation because, as noted above, the definition of "distributed resources" includes EVs. Also, the second Guiding Principle of the alternative VGI program terms in Attachment 2 of this decision provides that the implementation of the 2016 VGI Pilot Program is to be guided by the principle that it "Must be structured to provide net benefits to all ratepayers." The concept

[34] The term "distributed resources" also refers to "distributed energy resources" (DER). Both of these terms are used interchangeably in R.14-08-013 and A.15-07-003.

of net benefits is also included in Public Utilities Code Section 769(b)(3) and (b)(4). Pursuant to those two subdivisions, SDG&E's DRP proposal shall: "(3) propose cost-effective methods of effectively coordinating existing commission-approved programs, incentives, and tariffs to maximize the locational benefits and minimize the incremental costs of distributed resources;" and "(4) Identify any additional utility spending necessary to integrate cost-effective distributed resources into distribution planning consistent with the goal of yielding net benefits to ratepayers."

The effective integration of EVs as distributed resources in SDG&E's system is important to the design of the VGI rate because that rate incorporates location-based capacity constraints into pricing to benefit customers by avoiding upgrades and new generation capacity. Also, SDG&E's DRP proposal points out that the VGI rate can be used to send price signals to modify EV charging behavior in a way that is responsive to the needs of the local distribution system. As part of the DRP, SDG&E plans to expand its distribution planning process to include analysis to "help better identify where DER can interconnect with minimal impact and where interconnecting a DER can add value to the grid." (SDG&E A.14-07-003, DRP at 20.)

Accordingly, we agree that SDG&E's site selection in the 2016 VGI Pilot Program should coordinate and leverage the work being performed in R.14-08-013, such as the integration capacity analysis, to help identify potential locations for the EV site installations. The integration capacity analysis examines "the amount of DER capacity that can be installed on a distribution circuit without requiring significant distribution upgrades." (SDG&E A.14-07-003, DRP at 22.) We have added this coordination and leveraging of the work being performed in R.14-08-013 as one of the "Modifications To SDG&E's VGI

Framework" in Attachment 2. Similarly, the future results from the 2016 VGI Pilot Program may help inform the work that is being performed in connection with R.14-08-013. Coordinating the activities in the 2016 VGI Pilot Program with the work being done in connection with SDG&E's DRP in R.14-08-013 will result in a cost effective method of coordination that is consistent with Public Utilities Code Section 769(b)(3).

In the comments on the proposed decision, SDG&E and other parties expressed concern that the Commission should not overly rely on the DRP proceeding since it is still ongoing. We do not intend to prejudge the outcome of R.14-08-013 through this decision or in these proceedings. However, it is prudent to ensure that the developments in the methodologies and decisions in the DRP proceeding are leveraged in the 2016 VGI Pilot Program, and that such developments be considered in the site selection criteria and prioritization process.

5.7.4. Guiding Principles

The purpose of the 11 Guiding Principles that are set forth in the Proposed Settlement, is to help inform the modifications that were made to SDG&E's original VGI application, and to guide the implementation of the VGI program. Since this VGI program is to be a pilot program, we want to ensure that the budget approved for such a program is spent wisely. For that reason, we include two additional Guiding Principles as part of the alternative VGI program terms, in Attachment 2 to this decision, that are acceptable to the Commission. The first Guiding Principle that we add is: "Must manage program costs." The second Guiding Principle is to leverage the program funds to minimize overlap with similar activities that SDG&E and state agencies are pursuing. Thus, the second Guiding Principle that we add is: "Must complement other utility clean energy

programs and other non-utility programs, such as those being implemented pursuant to the Charge Ahead California Initiative (Stats. 2014, Ch. 530) which will build consumer demand for clean energy and zero emission vehicles."

With respect to allowing site hosts to choose between the VGI Rate-to-Driver, and the VGI Rate-to-Host option, we encourage SDG&E to enroll a significant number of the EV site installations under both of the VGI billing options. This will allow the Commission, SDG&E, and other parties, to compare these two options, how site hosts implement the VGI Rate-to-Host option, and whether these rate options affect the time of day of the EV charging.

5.7.5. Targeting of MUDs and Workplaces

The next item to discuss in the alternative VGI program terms is the targeting of MUDs and workplaces. SDG&E's original VGI proposal, and the Proposed Settlement, does not address the specific number of EV site installations and EV charging stations that will be deployed at MUDs and at workplaces. Some of the parties recommend that the VGI program focus exclusively on MUDs, while others favor a focus on workplaces.

The testimony demonstrates that both MUDs and workplaces are currently underserved by the EV charging market, and that potential and current EV owners value the convenience of being able to charge their EVs at their place of residence. There is also evidence to suggest that some workplaces may wish to provide free or reduced fees to charge their employees' EVs. In addition, some workplaces may want an EV site installation as a symbol of their environmental consciousness. Since property owners at both MUDs and workplaces will need to grant easements to SDG&E in order to site EV charging infrastructure at these locations, owners of MUDs may be more reluctant than owners of workplaces to grant easements due to tenant turnover and the uncertainty of attracting a tenant

who may need EV charging. In addition, due to property size constraints of a MUD, there may be insufficient parking spaces to accommodate EV charging. As a result, the siting of EV charging infrastructure at workplaces may be easier than trying to site this infrastructure at MUDs. If this occurs, SDG&E and third party providers of EV charging services may be reluctant to site such services at MUDs. For all of those reasons, we should ensure that the targeting of MUDs remains a priority. Accordingly, an alternative VGI program term will be added to the 2016 VGI Pilot Program that requires that between 40% and 60% of all site installations and charging stations are to be deployed at MUDs, with a target of approximately 50%.

5.7.5.1. Civil Code Section 1947.6

An issue related to the deployment of EV charging infrastructure at MUDs is the enactment of Civil Code Section 1947.6 (Stats. 2014, Ch. 529). Subdivision (a) of that code section provides in part that if certain conditions are met, a lessor of a dwelling "shall approve a written request of a lessee to install an electric vehicle site installation at a parking space allotted for the lessee that meets the requirements of this section and complies with the lessor's procedural approval process for modification to the property." Civil Code Section 1947.6(b)(1) specifically excludes Civil Code Section 1947.6(a) from applying to a residential rental property where EV "site installations already exist for lessees in a ratio that is equal to or greater than 10 percent of the designated parking spaces."

Pursuant to Civil Code Section 1947.6, a tenant of a residential rental property can make a request of the landlord to install EV charging infrastructure. This code section contemplates that the landlord will pay for all the costs associated with the installation of the EV charging infrastructure, and that the tenant will reimburse the landlord for those costs. (See Civil Code

Section 1947.6(g). With the alternative VGI program that we approve in this decision, SDG&E is to provide the EV charging infrastructure at no cost to the site host except for a participation payment. A situation could arise where the VGI program may conflict with Civil Code Section 1947.6, such as where the owner of the MUD may look to SDG&E to provide the EV charging infrastructure, instead of paying out-of-pocket to install this infrastructure.[35] This is an issue that we will direct the Energy Division to monitor and to determine if it affects MUD siting decisions. The Energy Division should also bring this issue to the attention of the California Energy Commission and the ARB, and to cooperate with those agencies regarding this issue.

5.7.6. Charging Technology

There are currently three primary EV charging methods that can be used with most EVs, and the charging method that Tesla uses to charge its vehicles. The three primary charging methods are Level 1 charging, Level 2 charging, and DC fast charging. As part of the modifications made in the Proposed Settlement, it specifically excludes DC fast charging as part of SDG&E's VGI program.

Prior to agreeing to the Proposed Settlement, PIA recommended that SDG&E's VGI program include DC fast chargers as part of SDG&E's deployment of EV charging stations. Other parties also suggest that new charging technologies may replace Level 1 and Level 2 charging in the future.

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[35] This potential conflict is another reason why the funding of the alternative VGI program has been reduced. If more monies are available for siting EV charging infrastructure, potential sites host may come to expect subsidized funding of the EV charging infrastructure in the future. Such an expectation by potential site hosts could reduce third party involvement in the EV charging market.

As part of the alternative VGI program terms, we will not delete the statement that "SDG&E's VGI program does not include the installation of DC Fast Charging equipment." DC fast charging is capable of supplying electricity into an EV in a much shorter amount of time than Level 1 or Level 2 charging. Since the VGI rate is based on time-differentiated hourly rate, it may be more advantageous to use a slower charging method such as Level 1 and Level 2 charging. For that reason, SDG&E's VGI program shall not include DC fast charging.

5.7.7. Disadvantaged Communities

The Proposed Settlement targets disadvantaged communities for the placement of 10% of the EV site installations and EV charging stations. The targeting of disadvantaged communities for the siting of EV site installations raises an issue about whether the CalEnviroScreen tool will be able to identify locations that could benefit the most from the placement of such stations. Possible locations, for example, could include communities with higher pollution levels, or communities that could provide the highest benefit for a given deployment.

In the Proposed Settlement, SDG&E committed to work with CBOs to help with education and outreach, and to prequalify and sign-up site hosts for participation in the VGI program. As part of the alternative VGI program terms, we will also require SDG&E to work with the CBOs to identify disadvantaged communities that could benefit the most from the deployment of EV site installations.

The Proposed Settlement also contains other methods for how disadvantaged communities can be targeted. One method is for preapproved third party vendors to market and sign-up potential VGI facility site hosts,

including those located in disadvantaged communities. The Proposed Settlement also provides that SDG&E will solicit the participation of the PAC in planning and implementing the VGI program. As part of the PAC responsibilities, the PAC can recommend program changes to prioritize potential VGI host sites for the equitable deployment of EV charging infrastructure. In addition, the identification of disadvantaged communities can also be coordinated with the work that ARB is doing in disadvantaged communities to increase EV adoption as part of the Charge Ahead California Initiative, including the programs set forth in H&S Code § 44258.4(c)(4) such as EV car sharing, and leveraging lessons learned from similar CARB-funded programs. All of the above methods have been retained in the alternative VGI program terms that appear in Attachment 2 of this decision.

In addition, SDG&E is to coordinate the deployment of site installations in disadvantaged communities with other Commission authorized programs that target low income customers and limited English proficiency customers. Such coordination could occur by working with the CBOs involved in the Community Help and Awareness of Natural Gas and Electricity Services program, which was originally authorized in Commission Resolution CSID-004 in November 2010, and most recently in D.15-12-047.

We note that in SB 535 (Stats. 2012, Ch. 830), the California Environmental Protection Agency was directed in H&S Code § 39711 to identify disadvantaged communities to carry out the intent of the California Global Warming Solutions Act of 2006 (Stats. 2006, Ch. 488) to direct resources to disadvantaged communities to mitigate adverse impacts from climate change. As noted earlier, the CalEnviroScreen tool was developed in accordance with SB 535 to identify disadvantaged communities. However, the use of a state-wide scope for

determining which disadvantaged communities would be eligible for site installations poses a challenge to the extent that certain utility territories – as a result of their relative geographic size, local industrial composition, and residents – have relatively few census tracts that are scored within the top quartile by the CalEnviroScreen tool on a state-wide basis. The inclusion of census tracts located within other utility service territories in the definition of disadvantaged communities would have the consequence of excluding from eligibility the census tracts in such utility territories that are disadvantaged when compared to the rest of the service territory, but relatively less disadvantaged when compared to communities elsewhere in California. For the purposes of this initial pilot program, we find it reasonable to be more inclusive, and select the definition that will enable greater access to charging infrastructure, including those in rural areas. For those reasons, it is reasonable to define eligible disadvantaged communities as the top quartile of census tracts as identified by CalEnviroScreen on either a state-wide or a utility-wide basis, whichever is broader. To determine which basis is appropriate in the case of SDG&E's service territory, SDG&E is directed to calculate the number of census tracts qualifying under each option, and to submit this information, along with a request to use the broader of the two options, as part of a Tier 1 advice letter.

5.7.8. Monitoring, Reporting, and Data Collection

Another issue that parties have raised is the frequency of the monitoring and reporting of the pilot program, and the type of data that should be reported.

Under the Proposed Settlement, an interim report providing an assessment of the VGI program would not be due until two years after the VGI program is launched. As discussed earlier, several parties recommend that the reports be issued much earlier and more frequently so that the Commission can evaluate

how the program is doing, and to make any needed changes or adjustments. We agree that more frequent monitoring and reporting is needed. As part of the alternative VGI program terms, we will require SDG&E to have a check-in meeting with the Commission's Energy Division staff every three months to provide the staff with updates regarding the following: (1) the amount of interest in siting EV site installations at MUDs and workplaces; (2) the number of EV site installations that were approved, or that are in the pipeline, for deployment; (3) the site selection criteria used in selecting the sites that will host the EV site installations; (4) the number of EV site installations and EV charging stations that SDG&E has deployed under the approved alternate VGI program terms; (5) the rate option that the site hosts have chosen; (6) how the VGI-Rate-to-Host option is being implemented by the site hosts; (7) the usage rates at these EV site installations and charging stations; (8) the timing patterns of EV charging and the degree to which these times correlate to times of low VGI rates; (9) the amount of program funds spent during the quarter, and the cumulative amount spent; and (10) observable trends or correlations between the number of EV site installations deployed compared to EV charging use and growth in the number of EVs.

We will also require SDG&E to file in R.13-11-007, or in a successor proceeding, semi-annual reports containing the information reported in the quarterly check-in meetings, the data described in Appendix B to Attachment 2 of this decision, and a description of any program changes implemented by SDG&E prior to the date of the report. This reporting requirement will terminate on February 1, 2021. The report shall be posted on SDG&E's website, and a notice of the availability of that report shall be served on the R.13-011-007 and A.14-01-014 service lists. Parties may then file and serve opening comments on each semi-annual report within 30 days of the service of the report in

R.13-011-007, and parties may file and serve reply comments within 50 days of the service of the report.

Several of the parties recommend that improvements should be made to the type of data that is to be collected about the VGI program. CESA recommends that the data collection effort for the VGI program should include current and forward looking projections to document and compare the development of third-party and SDG&E-owned site installations. CESA also recommends that the cost data for the VGI program be collected independently to ensure the accuracy of those costs. ORA recommends that the data collected include information and data trends, relating to a list of performance metrics including, but not limited to, VGI marketing, education, and outreach, site acquisition and installation efforts, EVSE deployment per market segment, EV charger utilization at the site level, load impacts, fuel savings, and GHG reductions. UCAN contends that the data requirements need to be better defined in order to assess whether the goals and objectives of the VGI program have been met. In its comments on the proposed decision, TURN requests that the proposed decision be more specific about the data SDG&E is required to collect and report regarding EV adoption and potential anti-competitive effects.

Regarding the type of data that is to be reported, Appendix B to the Proposed Settlement addresses the supplemental data collection. This supplemental data collection is in addition to the data collection and analysis referenced in Exhibit SDG&E-6 at 35-37. Attachment 2 of this decision, and Appendix B of Attachment 2 replicate the type of data to be reported. As discussed above, we have modified the Proposed Settlement by the alternative VGI program terms. The alternative terms add quarterly updates for SDG&E to

provide information on 10 issues, and accelerate the time in which the reports are to be filed.

With the exception of TURN's recommendations, we are not persuaded by the various parties' arguments that data in excess of what we have already described is needed, and therefore do not adopt their recommendations regarding data collection. TURN's recommendation has been incorporated into Appendix B of Attachment 2 of this decision.

We believe that all of this data that is being required through the alternative VGI program terms will be useful in evaluating SDG&E's VGI program, to decide if any changes need to be made, and to help decide whether the VGI pilot program should be expanded or if other EV programs should be launched. This data may also aid in comparative evaluations of the SDG&E 2016 VGI Pilot Program relative to other utilities' EV infrastructure and rate programs. In addition, the data and reports will provide the necessary information about how the 2016 VGI Pilot Program is performing, and if it is on track to achieve the goals set forth in today's decision.

We recognize, however, that the format of the monitoring, data reporting, and collection is crucial. There is a need to report data in a manner that ensures that the Commission can conduct an analysis of EV charging technologies that will work in a harmonious manner across the utilities' service territories. (See Public Utilities Code Section 740.2(e)). Due to the common geospatial nature of the proposed pilot programs of SDG&E, SCE, and PG&E, SDG&E shall work with the PAC to select a geographic information system (GIS) based tool and interface that the public and other utilities can use to track the progress and

attributes of the deployment.[36] The task of selecting a GIS tool has been included as part of the modifications to the alternative VGI program terms in Attachment 2 of this decision. As discussed earlier, the Commission also encourages SDG&E to use this data to help inform SDG&E's DRP efforts pursuant to Public Utilities Code Section 769 in which SDG&E identifies the VGI rate design as a means of optimizing the use of grid assets on the local distribution system.

5.7.9. Metering and Billing

One of the Proposed Settlement's modifications addresses how the metering will be done for the EV charging stations. The metering at the EVSE level must be compatible with SDG&E's billing and metering requirements (such as, tolerances, accessibility, testability, and re-calibration), and/or the approved submetering protocol. For those sites that have chosen the VGI Rate-to-Driver, SDG&E will send the bill directly to the EV driver (who is an SDG&E customer). For those sites on the VGI Rate-to-Host option, SDG&E will send the bill to the site host. Since site hosts can choose the EVSE from preapproved vendors, the data from the EV charging stations is to be provided to SDG&E in a manner acceptable to the vendor and SDG&E, and that meets SDG&E's specifications.

The metering procedure of SDG&E raises the issue of the submetering protocol as set forth in section III. M of the Proposed Settlement. SDG&E will be the owner of both the EV site installation and the charging stations. Under most situations, the site installation will have its own electric service drop. This

[36] H&S Code § 44268.2(b) requires that an EV charging provider disclose to the National Renewable Energy Laboratory the geographic location of the charging station and other information.

service drop at the site installation can then feed more than one EV charging station. Under this system design, SDG&E will be engaged in multiple customers of record submetering, as defined in D.13-11-002, when it provides billing to each individual EV charging customer using an EV charging station that is serving the VGI Rate-to-Driver option. Under the VGI program, each EV charging station will be capable of identifying the specific EV driver who is using the charging station at a particular time. This will occur through the inputting of a customer-specific identifier prior to the EV charging station dispensing electricity. This identifying information should, in theory, minimize submetering billing disputes.

In carrying out these submetering billing activities, SDG&E shall ensure that its submetering and billing activities are consistent with the PEV submetering protocols for multiple customers of record that are pending adoption contingent upon the pilots pursued in compliance with D.13-11-002, and that the data it receives from the EVSE vendors, pending the capabilities determined in the RFI and RFP processes, is compliant with these submetering protocols that are in development for the second pilot phase testing multiple customer of record submetering. We recognize that the submetering protocols proposed for adoption in D.13-11-002 apply to a customer of the utility who owns the metering equipment, and is performing the submetering and billing activities. However, the basis for these same protocols should apply to the utility-owned submetering and billing activity that SDG&E will be performing. As a result, we have added as part of the alternative VGI program terms, that the D.13-11-002 concept for multiple customer of record submetering is an example of the approved protocol that will be used in the 2016 VGI Pilot Program to serve the VGI Rate-To-Driver option.

There is the potential to learn from SDG&E's submetering activities, and to apply and extend those lessons learned toward offering a VGI rate to other electricity customers. If vendors supply EVSE that can receive, record and securely transmit accurate data to SDG&E consistent with the protocols for communicating data proposed by SDG&E and pursuant to the pending submetering protocol, this may allow SDG&E to broadly offer the VGI rate in the future to PEV customers, or to EV charging station providers, who use compliant EVSE. In its analysis and reporting of the progress and results of its 2016 VGI Pilot Program, SDG&E shall also include an evaluation of the effectiveness of the VGI rate, and provide recommendations on the potential impact of making the VGI rate available to non-utility owned EV charging stations, including those at places other than MUDs and workplaces.

We also note that consistent with the Guiding Principle to "Support clean air and climate change objectives," the use of EV submeters can help meet the State's Low Carbon Fuel Standard (LCFS) Program administered by the ARB. As part of the ARB's LCFS regulations, the reporting of electricity used as a transportation fuel can be accomplished by "the use of metering to measure the electricity directly dispensed to all vehicles at each residence…." (California Code of Regulations, Title 17, § 95491(a)(3)(D).)

An issue related to metering and billing, and the type of EVSE to be installed, concerns the issue of interoperability standards that KnGrid originally raised. SDG&E's testimony states it has no intention to develop new interoperability standards, and will evaluate the proposals of the various EVSE vendors during the RFP process. We decline to adopt specific interoperability standards for the VGI pilot program. There is insufficient testimony before us in this proceeding to choose what specific standards should be adopted. Instead, as

provided for in modification number 21 and Appendix C of the alternative VGI program terms, the process for how SDG&E will evaluate competing EVSE products is set forth in Attachment 2.

5.7.10. Program Advisory Council

Some of the parties have questioned the composition of the PAC, and whether the activities of the PAC will have any effect on the VGI program.

Regarding the composition of the PAC, Appendix A of the Proposed Settlement already addresses that, which we have retained as part of the alternative VGI program terms. Appendix A to the Proposed Settlement and Appendix A to Attachment 2 of today's decision, provides that SDG&E will seek participation in the PAC from a broad and diverse stakeholder group, including representatives from local and state government (including representation from the Energy Division), industry, labor and other stakeholders, ratepayer and environmental advocates, and representation from Disadvantaged Communities. That provision will ensure that the PAC will be composed of a variety of participants interested in the development of the EV charging infrastructure in SDG&E's service territory. To ensure that there is participation from the local and regional planning organization for transportation in the San Diego area, we require as part of the alternative VGI program terms that SDG&E seek the participation of the San Diego Association of Governments on the PAC.

As for concerns that the PAC will not be able to affect the VGI program, we disagree. Although the PAC will not have formal decision-making authority, it will make recommendations and/or provide key information and materials to SDG&E's VGI program managers about possible program changes to the VGI program. In accordance with Appendix A of the Proposed Settlement, which has been retained in Appendix A of Attachment 2 of this decision, "SDG&E will give

careful consideration to all programmatic modifications recommended by the PAC at their meetings and implement such changes deemed feasible and necessary."

In addition, we delegate to the Energy Division of the Commission the authorization to resolve disputes, and to modify and approve modifications to the 2016 VGI Pilot Program that are minor in nature and which are not specified in this decision to be submitted by an Advice Letter. The Energy Division may informally communicate such modification or approval through its participation in the PAC.

We also note that under the alternative VGI program terms, we have accelerated the time for SDG&E to provide reports about the VGI program. Since parties will have the opportunity to comment on these semi-annual reports, if members of the PAC do not think SDG&E is considering their VGI program input, such concerns can be brought up in the parties' comments on the semi-annual reports, or in protests to advice letters that may propose specific program modifications.

The Proposed Settlement also has procedures in place to encourage involvement by the PAC and CBOs in the siting of EV charging locations, and to suggest program changes to the VGI program.

For all of the above reasons, no additional changes need to be made to the composition of the PAC, or to the role of the PAC.

5.7.11. Participation Payment

Several parties have raised questions about the participation payment that site hosts would be required to pay under the terms of the Proposed Settlement. They question how the size of the participation payment will be determined, and whether the participation payment will be sufficient for site hosts to have a

vested interest in having an EV site installation located on the premises. Some of the parties also raised these concerns in their comments on the proposed decision.

The Proposed Settlement, and the alternative VGI program terms, include provisions that address how the participation payment will be determined. These provisions also exclude those EV site installations that are sited in disadvantaged communities from being charged a participation payment. In developing the size of the participation payment, the considerations "include, but are not limited, to the following: customer commitment, avoiding adverse impacts to deployment, total VGI Facility cost and customer segment." After consulting with the PAC, SDG&E will then file a Tier 2 advice letter requesting approval of the proposed participation payment. Parties can raise concerns about the size of the participation payment in a protest to the advice letter filing.

As described above, some of the criteria and considerations for deciding the size of the participation payment are already known. Another consideration is the various EVSE that may be offered, and their varying capabilities. In addition, the participation payment will undergo review by the PAC, will be subject to protest by parties during the advice letter process, and will be reviewed by Commission staff during the advice letter process.

TURN recommends in its comments on the proposed decision that the Commission set the participation payment in this decision by requiring workplace locations to pay for 75% of the costs of the charging stations installed at their sites, and requiring MUDs to pay for 50% of the costs of the charging stations. TURN contends that this is consistent with what was adopted in the EV pilot program of Southern California Edison Company in D.16-01-023. UCAN

suggests that the PAC be chaired by the Energy Division representative, and that the PAC develop the participation fee.

As described above, there are a number of competing concerns regarding the participation payment. These concerns should be addressed through the PAC and the advice letter process, with the Commission's Energy Division taking the lead on the development of the participation payment, and to resolve disputes under the delegated authority provided in this decision. The development of the participation payment should consider what was done in D.16-01-023, as well as the criteria and considerations expressed in the Alternative VGI Program Terms in Attachment 2 of this decision. This process will ensure that the amount of the participation payment will not be set in a unilateral manner by SDG&E or any other party.

The comments on the proposed decision also seek clarification on whether the participation payment should offset the capital costs, or the O&M costs. UCAN recommends that the participation payment be used to reduce the capital expense, which would reduce the ratebase. TURN and some of the other parties recommend that the participation payment be used to offset the O&M costs.

In the SCE EV pilot program, we treated the charging station rebate as an expense, rather than including the rebate into ratebase. (See D.16-01-023, at 18-20.) For that reason, we will direct SDG&E to use the participation payments it receives from the 2016 VGI Pilot Program to offset the O&M costs incurred, and for SDG&E to establish a memorandum account to achieve this purpose.

5.7.12. Education and Outreach

Several parties contend that a lot more education and outreach is needed as part of SDG&E's VGI program in order to do the following: encourage property owners of MUDs and workplaces to sign-up for the VGI program;

educating the public about the benefits of transportation electrification; and educating potential EV owners about the benefits of owning an EV. We also note that the GPI and JMP recently filed a joint motion in these proceedings requesting that the Commission open a new track in early 2016 to focus on education and outreach for increasing EV adoption.

We note that the Proposed Settlement already contains provisions to conduct education and outreach, which have been incorporated into the alternative VGI program terms. One of the Guiding Principles is to support the goals to install a grid-integrated infrastructure to support one million ZEVs by 2020, and to accelerate the adoption of 1.5 million ZEVs by 2025. In addition, the Proposed Settlement provides for preapproved third party vendors to market and sign-up site hosts. Additionally, SDG&E will work with CBOs to assist with education and outreach, and to prequalify and sign-up site hosts. Also, as part of the alternative VGI program terms, we added the Guiding Principle that the VGI program must complement other utility clean energy programs, and other non-utility programs such as the Charge Ahead California Initiative. We have also added further direction to coordinate outreach with existing low-income and limited English proficiency programs such as the Community Help and Awareness of Natural Gas and Electricity Services program. We also note that in D.11-07-029, the Commission ordered the electric utilities to adhere to the education and outreach principles pertaining to PEVs adopted in that decision.

Accordingly, there is no need to require that a certain percentage of the approved VGI program budget be used for education and outreach efforts. As for the joint motion of GPI and JMP, that will be addressed in a separate ruling.

5.7.13. Bidirectional Power Flow

Vote Solar contends that the VGI program does not explore whether the EV charging equipment will have the capability for bidirectional power flow, from the grid into the EV battery, and from the EV battery into the grid. Although this bidirectional use of EV batteries was identified as "vehicle to grid" (V2G) in R.13-11-007 (see R.13-11-007 at 14-16), the SDG&E VGI program is focusing on managing PEV charging to incentivize EV charging customers to charge their EVs during non-peak periods, and to maximize the use of renewable generation that is generated during non-peak periods. Although SDG&E's VGI program is not designed to explore how the batteries of EVs can be used as grid storage and to discharge energy back into the grid, we recognize that certain EV service providers may wish to provide this as a "complementary service" that might include onsite photovoltaics or energy management systems.

In connection with SDG&E's 2016 VGI Pilot Program, V2G will be permitted as a complementary service that may be offered by third party vendors of EVSE in the ongoing RFI and RFP qualification processes, subject to the following two guidelines that ensure consistency with the 2016 VGI Pilot Program.

The first guideline, as recognized in the Energy Division's Whitepaper on VGI, is that V2G represents an additional step toward enabling the use of EVs as storage devices in a fully integrated electric and transportation system. Allowing V2G discharging could facilitate this type of service, and could lead to the development of new products and innovation by EV service providers for their EV charging customers. For example, in Resolution E-4595, the Commission authorized the development of a V2G project that tests the provisioning of ancillary services to the CAISO through the use of a PEV fleet.

The second guideline is that the cost of this V2G complementary service will not be borne by ratepayers unless the service is necessary to support the VGI program objectives. That is because the cost of bidirectional power flow equipment was not included as part of SDG&E's VGI proposal, the cost of such equipment is not known at this point, and we do not yet know the extent of the demand for this type of service.

In the modifications to the alternative VGI program terms, we have included V2G as an example of a complementary service that could be offered by EVSE providers.

5.7.14. Line Extension Issue

TURN contends that SDG&E's VGI program violates Pubic Utilities Code Sections 453 and 783 because SDG&E is not charging for the line extension costs (contained in SDG&E's electric Rules 15 and 16) that may be needed to provide electric service at the EV site installations. TURN contends that not charging the customer for such a line extension violates Public Utilities Code Section 453 because it grants a preference as to a rate or charge. TURN also contends that the Commission must make the written findings required in Public Utilities Code Section 783 before allowing such line extensions to be built.

SDG&E contends that its electric Rules 15 and 16, and the two Public Utilities Code sections, do not apply to SDG&E's proposed deployment of the EV site installations. SDG&E contends that since it will be the owner of the EV site installations, that the line extension rules do not apply.

We agree with SDG&E on the line extension issue. Before SDG&E constructs anything on the site host's property, SDG&E will require that it be provided with an easement from the property owner so that SDG&E can construct and install the EV site installation, the EVSE, and any wiring or service

drop that may be needed. Since SDG&E will be the owner of the EV site installations and the EV charging stations, under the terms of SDG&E's electric Rules 15 and 16, and Public Utilities Code Section 783, SDG&E is not extending service to a customer. Accordingly, Public Utilities Code Sections 454 and 783, and SDG&E's electric Rules 15 and 16, do not apply to these EV site installation deployments.

5.7.15. Electricity From Direct Access Providers

Marin Clean Energy and Shell Energy raise the issue of whether the EV site installations should be able to obtain their electricity from direct access providers. Shell Energy contends that if SDG&E is the owner of the EV site installation, that SDG&E should be required to obtain the electricity from an ESP.

We decline to require as part of the alternative VGI program terms that SDG&E obtain the electricity for its EV site installations from an ESP. We decline to do so because SDG&E's VGI rate will be designed using several different factors. If SDG&E is required to obtain the electricity for the EV site installations from a third party provider, this will add another layer of complexity to the design of the VGI rate since SDG&E would need to factor in the cost of the ESP's electricity.

5.7.16. Request for GHG Funding Eligibility

SDG&E requests in its application that the Commission make a determination that SDG&E's VGI pilot program be found eligible, pursuant to D.12-12-033, to receive funding from the revenues generated by the sale of the cap-and-trade allowances consistent with Public Utilities Code Section 748.5(c). The nine settling parties who filed briefs in support of the adoption of the Proposed Settlement support SDG&E's request that it be allowed to seek funding from the GHG revenues for this pilot program.

TURN opposes SDG&E's request that it be allowed to receive funding from the revenues generated through the sale of cap-and-trade allowances. TURN contends that SDG&E has not demonstrated that the VGI program meets the regulatory requirements that govern the use of cap-and-trade revenues.

We have reviewed D.12-12-033, D.14-10-033, and Public Utilities Code Section 748.5(c). Public Utilities Code Section 748.5(c) provides in part that the GHG revenues may be allocated "for clean energy and energy efficiency projects established pursuant to statute that are administered by the electrical corporation and that are not otherwise funded by another funding source."[37] Based on this provision, SDG&E's request does not meet the requirements to receive funding from the GHG revenues. That is because the monies for the VGI program that we approve in the alternative VGI program terms will be funded from "another funding source," i.e., from ratepayers of SDG&E. In addition, D.14-10-033 at 28 requires that when seeking approval of a project using GHG revenues, the utility is to explain why the project qualifies under Public Utilities Code Section 748.5(c), and why the project is best funded with GHG allowance revenues instead of ordinary recovery through rates. No explanations have been provided in that regard. Accordingly, we conclude that the VGI program approved in today's decision is not eligible for funding from the GHG revenues.

5.7.17. Safety Considerations

The safety-related considerations for the VGI program are ensuring that the EV site installation and the associated EVSE infrastructure are installed safely

[37] D.14-10-033 at 27 also cites Public Utilities Code Section 748.5(c) regarding funding by another funding source.

and in accordance with applicable codes and regulations, and that the electricity dispensed from the EV charging stations is safely delivered.

These safety-related considerations are addressed in the Proposed Settlement, which have been incorporated into the alternative VGI program terms. For those contractors who construct, install, and maintain the EV site installations and charging stations, all of them will be required to have EVITP certification. The EVITP provides training and certification to licensed electricians who plan to install EVSE.

In addition, the Proposed Settlement provides that:

> SDG&E will require that all the construction, installation and maintenance of VGI Facilities that is not performed by employees of SDG&E shall be performed by contractors signatory to the [International Brotherhood of Electrical Workers (IBEW)] who hold a valid C-10 contractor's license, as defined in the governing labor agreement between SDG&E and the IBEW.[38]

As discussed before, the Proposed Settlement is based on SDG&E's original VGI proposal as modified by the Proposed Settlement. As part of SDG&E's planning for each of the EV site installations, SDG&E will prepare an engineering design and electrical load calculations, and submit that to the local permitting agencies to obtain the necessary permits. (See Exhibit SDG&E-2 at 10-11.) In addition, all of the EVSE must meet SDG&E's specifications. (*Id.* at 18-19.)

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[38] According to the Contractors State License Board of the California Department of Consumer Affairs, a C-10 contractor's license allows an electrical contractor to place, install, erect or connect any electrical wires, fixtures, appliances, apparatus, raceways, conduits, solar photovoltaic cells or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

All of the above requirements have been retained in the alternative VGI program terms as set forth in Attachment 2 of this decision. Those requirements will ensure that the construction, installation, and operation of the EV site installations and charging stations comply with all the applicable safety regulations and codes. We also note that for those EV site installations being installed pursuant to Civil Code Section 1952.7, subdivision (d) of that code section provides that those site installations "shall meet applicable health and safety standards and requirements imposed by state and local authorities as well as all other applicable zoning, land use, or other ordinances, or land use permit requirements."

As part of the RFI and RFP processes, SDG&E needs to consider and ensure that the metering data, and other data, transmitted from the EVSE is secure.

5.7.18. SB 350 and Future VGI Rollout if Warranted

SB 350 will affect all future actions of the Commission regarding transportation electrification activities. Public Utilities Code Section 740.12(d) excludes SDG&E's VGI application from Public Utilities Code Section 740.12 because that code section applies to all applications for transportation electrification programs and investments filed on or after January 1, 2016.

The enactment of SB 350 raises the issue about the means in which SDG&E's VGI pilot program can be expanded, if warranted, in the future. Public Utilities Code Section 740.12(b) clearly contemplates that all future applications "for programs and investments to accelerate widespread transportation electrification" should be reviewed based on the policies expressed in Public Utilities Code Section 740.12. Instead of keeping A.14-04-014 open to consider a possible expansion of SDG&E's VGI program sometime in the future,

A.14-04-014 will be closed through today's decision. Thus, any future request of SDG&E to expand the 2016 VGI Pilot Program, or to apply the lessons learned from the 2016 VGI Pilot Program to other transportation electrification programs or investments, is to be filed in a new application.

Today's decision does not direct the electrical corporations to file the new "applications for programs and investments to accelerate widespread transportation electrification" as set forth in Public Utilities Code Section 740.12(b) as a result of SB 350. That direction will come in a future ruling or decision after the Commission has consulted with ARB and the Energy Commission as contemplated in Public Utilities Code Section 740.12(b).

5.7.19. CARE Discount

The JMP contends that since only 10% of the EV site installations will be located in disadvantaged communities, and because low income ratepayers will be least able to afford an EV and are unlikely to use the EV site installations, JMP recommends that the SDG&E ratepayers who live in disadvantaged communities should only pay 10% of the VGI program costs. Alternatively, JMP recommends that all low income ratepayers be responsible for only 10% of the costs, and those enrolled in the California Alternate Rates for Energy (CARE) be completely exempt.

We are not persuaded by the argument that since disadvantaged communities will host only 10% of the EV site installations, that the ratepayers living in such communities should only pay 10% of the VGI program costs. Our reason for not adopting that recommendation is twofold. First, the long run societal benefit of transportation electrification benefits society as a whole because GHG emissions are lowered, and air quality is improved. To apply a discount based on how many EV site installations are being located in a

particular community is not appropriate when the societal benefits are considered. Second, such a recommendation would be difficult to administer because of the added billing complexity of determining 10% of the VGI program costs, and then billing the ratepayers living in those disadvantaged communities at that reduced cost.

We are, however, persuaded by the argument that low income ratepayers are more unlikely to own an EV and to use the EV site installations, even though the Charge Ahead California Initiative is geared toward increasing access to disadvantaged, low-income and moderate-income communities.

The CARE program provides low income households with discounts on their energy bills. Public Utilities Code Section 382(b) provides as follows:

> In order to meet legitimate needs of electric and gas customers who are unable to pay their electric and gas bill and who satisfy eligibility criteria for assistance, recognizing that electricity is a basic necessity, and that all residents of the state should be able to afford essential electricity and gas supplies, the commission shall ensure that low-income ratepayers are not jeopardized or overburdened by monthly energy expenditures. Energy expenditure may be reduced through the establishment of different rates for low-income ratepayers, different levels of rate assistance, and energy efficiency programs.

Furthermore, Public Utilities Code Section 382(c) provides that "Nothing in this section shall be construed to prohibit electric and gas providers from offering any special rate or program for low-income ratepayers that is not specifically required in this section." In addition, Public Utilities Code Section 739.1(g) provides that "It is the intent of the Legislature that the commission ensure CARE program participants receive affordable electric and gas service that does not impose an unfair economic burden on those participants."

Thus, if SDG&E decides to accept the alternative VGI program terms, and because this is a pilot program, CARE customers will be excluded from paying the costs associated with the 2016 VGI Pilot Program. Should SDG&E seek to expand the VGI program in the future, we will revisit the issue in that new application of whether CARE customers should be excluded from having to pay the costs of an expanded VGI program.

5.7.20. Balancing Account

SDG&E requests that it be allowed to recover the costs of its VGI program from its ratepayers through the establishment of a two-way interest-bearing VGI Balancing Account (VGIBA). SDG&E proposes that the VGIBA record the authorized revenue requirement and the actual O&M and capital-related costs.

As part of the alternative VGI program terms in the proposed decision, it was recommended that SDG&E be authorized to establish a two-way interest-bearing VGIBA subject to the $45 million budget limit set forth in the proposed decision. In the comments to the proposed decision of ORA, TURN, and UCAN, they recommended the use of a one-way balancing account instead of the two-way balancing account to ensure that costs associated with the 2016 VGI Pilot Program are limited.

Since we are authorizing a pilot program that is limited in scope and cost, we are persuaded that a one-way interest-bearing VGIBA is more appropriate under the circumstances. If SDG&E accepts the terms of the alternative VGI program, it will have 30 days from the date of SDG&E's acceptance to file a Tier 2 advice letter to establish the one-way interest-bearing VGIBA.

As discussed in section 5.7.11 of this decision, SDG&E shall also establish a memorandum account to apply the participation payments that it receives from the 2016 VGI Pilot Program to offset the program's O&M costs.

5.7.21. Acceptance of Alternative VGI Program Terms

For all of the reasons that we discussed about the alternative VGI program terms, we conclude that these alternative terms, as discussed in today's decision and summarized in Attachment 2 of this decision, are acceptable to the Commission if SDG&E decides to pursue the 2016 VGI Pilot Program.

We find that the alternative VGI program terms: (1) are more reasonable and responsive to the concerns of the parties representing a ratepayer perspective; and (2) balance the interests of SDG&E, its ratepayers, and all the other parties, with the societal interests of reducing GHG emissions and promoting the use of renewable resources through the integration of a VGI rate for EV charging. Based on all of the discussion in this decision, we conclude that the alternative VGI program terms, and the 2016 VGI Pilot Program contained therein, are reasonable in light of the record developed in these proceedings, consistent with the law, and is in the public interest.

The approved 2016 VGI Pilot Program will help move the San Diego region towards the goal of transportation electrification and to meet the societal objectives of reducing GHG emissions and promoting the use of renewable sources of energy. This pilot will also allow for the testing of the VGI rate concept, and its acceptance by potential site hosts and by the EV owners in the San Diego area. For all of those reasons, we find pursuant to Public Utilities Code Sections 740.3(c) and 740.8 that the 2016 VGI Pilot Program is in the ratepayers' interests, and does not unfairly compete with nonutility enterprises.

Since today's decision does not grant SDG&E's request concerning its original VGI proposal, and denies the Settlement Motion to adopt the Proposed Settlement, it is up to SDG&E to decide if it wants to accept the alternative VGI program terms and to proceed with the 2016 VGI Pilot Program. SDG&E shall have 30 days from today's date to accept the alternative VGI program terms, and to proceed with the 2016 VGI Pilot Program as discussed in today's decision, and as described in Attachment 2 of this decision. To accept these alternative terms, SDG&E shall send a letter of acceptance to the Commission's Executive Director, which shall also be served on the service list in these consolidated proceedings, accepting the alternative VGI program terms and stating that it will implement the 2016 VGI Pilot Program on the terms and conditions set forth in Attachment 2 of this decision, and as described in today's decision.

If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall within 30 days of its letter of acceptance, file a Tier 2 advice letter establishing the 2016 VGI Pilot Program, and the pricing formula that will go into calculating the VGI rate.

As SDG&E pointed out in its comments on the proposed decision, and as explained in this decision and in Attachment 2 of this decision, a number of steps will need to be followed and taken before the first VGI site host can sign up for the VGI rate. Today's decision will pave the way for that process to begin. The three year sign up for the 2016 VGI Pilot Program shall begin after the advice letters described in this Ordering Paragraph 3 of this decision have been approved by the Commission.

We recognize that since the VGI rate will be constantly changing, it will not be possible to have the actual VGI rates in SDG&E's VGI tariff. In order to assist the decision making processes of EV charging customers and EVSE

vendors, and for the Commission to track and resolve any disputes regarding the actual VGI rates being charged, SDG&E shall maintain a publicly available website that includes a database and circuit-level map of all the hourly VGI rates being charged on all of its circuits participating in the 2016 VGI Pilot Program. SDG&E is to maintain the database to include, at a minimum, the most recent 17,520 hours, as available, of the VGI rates being charged on each circuit. This database of the VGI rates being charged by SDG&E to those customers and site hosts participating in the 2016 VGI Pilot Program shall be made available to the Commission upon demand.

The consent of the other settling parties who signed on to the Proposed Settlement is not needed because this decision denies the motion to adopt the Proposed Settlement. Although we favor the support of the Proposed Settlement's settling parties, as well as the support of the other parties who did not agree to the Proposed Settlement, it is up to SDG&E to decide if it wants to accept the 2016 VGI Pilot Program on the alternative VGI program terms. If SDG&E decides against proceeding with this program as approved and authorized in today's decision, then SDG&E will need to file a new application if it seeks to deploy EV charging infrastructure.

Since all of the issues raised in connection with SDG&E's VGI proposal in A.14-04-014 have been addressed by today's decision, A.14-04-014 shall be closed and no longer consolidated with R.13-11-007. R.13-11-007 shall remain open as there are other issues to address in that Rulemaking.

6. Comments on Proposed Decision

The proposed decision of Administrative Law Judge (ALJ) John S. Wong in this matter was mailed to the parties in accordance with Public Utilities Code Section 311, and comments were allowed pursuant to Rule 14.3 of the

Commission's Rules of Practice and Procedure. Opening comments were filed on January 12, 2016, and reply comments were filed on January 19, 2016.

Those comments have been reviewed and considered, and appropriate changes have been made to the decision.

7. Assignment of Proceeding

Carla J. Peterman is the assigned Commissioner and John S. Wong is the assigned ALJ in this proceeding.

Findings of Fact

1. Governor Brown's Executive Order B-16-2012 set a target of creating infrastructure to support up to one million ZEVs by 2020, and to have 1.5 million ZEVs on California's roads by 2025.

2. A.14-04-014 was consolidated with R.13-11-007 on September 29, 2014.

3. The August 5, 2015 ruling denied the request of some of the parties to hold additional hearings on the Proposed Settlement.

4. The August 5, 2015 ruling also directed the parties to file opening and reply briefs on whether the Proposed Settlement, SDG&E's original VGI proposal, or a variant of those proposals should be adopted or not.

5. Among other things, SB 350 added provisions to the Public Utilities Code to promote the widespread use of electricity as a transportation fuel in order to achieve the goals of the Charge Ahead California Initiative as set forth in the H&S Code.

6. H&S § 44258.4(b) states in part that the goal of the Charge Ahead California Initiative is to place in service at least one million ZEVs and near-ZEVs by January 1, 2023.

7. Public Utilities Code Section 740.12(d) specifically excludes SDG&E's application from the provisions of SB 350.

8. SDG&E's VGI pilot program is based in part on SDG&E's experience with a VGI prototype site installation that was installed for the use of its employees.

9. SDG&E's VGI rate will vary throughout the day to reflect the expected changes in energy prices and grid conditions, and PEV owners using the EV site installations will be sent day-ahead price signals to encourage PEV charging during off-peak periods.

10. SDG&E's VGI pilot program proposes that the sign-up and contracting take place over four years, and that the installations take place over a period of four to five years, with a total of 550 EV site installations and 5,500 EV charging stations being deployed in accordance with the following schedule: Year 1 – 50 site installations with up to 10 charging stations each; Year 2 – 100 site installations with up to 10 charging stations each; Year 3 – 200 site installations with up to 10 charging stations each; and Year 4 – 200 site installations with up to 10 charging stations each.

11. SDG&E's VGI pilot program is capped at $103 million.

12. SDG&E requests that it be allowed to recover the VGI pilot program costs from its ratepayers through the establishment of a two-way interest-bearing VGIBA.

13. SDG&E's circuits have different characteristics including the following: the number of residential and commercial customers on each circuit; the amount of solar generation of each circuit; the load factor of the circuit; and the peak demand hours of the circuit.

14. The circuit characteristics are expected to affect the calculation of the VGI rate's hourly prices across the more than 1,000 distribution circuits.

15. Under SDG&E's VGI pilot program, all of the EV charging infrastructure located at each site installation would be owned by SDG&E.

16. SDG&E considers its VGI program to be a pilot project because of the following: the unique VGI rate; the targeting of MUDs and workplaces only; and the four year enrollment period for the VGI program.

17. SDG&E's day-ahead hourly VGI rates will correspond with the expected changing hourly price of electricity and will be designed to encourage EV charging at times of the day that will minimize incremental peak loads on the electrical distribution system, integrate high levels of renewable energy use, and avoid charging on system peaks.

18. The Proposed Settlement is based on, and would accept with certain modifications, SDG&E's original VGI proposal as set forth in its application.

19. The Proposed Settlement is based on 11 Guiding Principles that are to guide the VGI program implementation, and the 16 modifications made to SDG&E's original VGI proposal.

20. Among the Proposed Settlement's 16 modifications are the following: site hosts will have the choice of two billing options, the VGI Rate-to-Driver, and the VGI Rate-to-Host, and if the VGI Rate-to-Host option is chosen the site host will be required to submit a load management plan; site hosts will be able to choose EVSE and related services from a list of prequalified vendors; SDG&E will assess a VGI program participation payment on VGI facility site hosts that elect to participate in the program, and the participation payment will be waived for VGI facilities located at sites in disadvantaged communities; at least 10% of the VGI facilities will be installed in disadvantaged communities as identified by the CalEnviroScreen; SDG&E will solicit participation from the PAC in planning and implementing the VGI program following its approval by the Commission;

metering at the EVSE level must be compatible with the SDG&E billing and metering requirements; and two years after the VGI program is launched, SDG&E will provide an interim progress report to the Commission, which will include the data described in Appendix B of the Proposed Settlement.

21. At the evidentiary hearings, some of the parties presented testimony as to why SDG&E's VGI proposal should be adopted, while other parties proposed a variety of changes to SDG&E's original VGI proposal.

22. A review of the Proposed Settlement reveals that many of the modifications to SDG&E's VGI proposal incorporate certain positions taken by some of the parties before the Proposed Settlement was agreed upon.

23. The overarching objective of SDG&E's VGI program, as set forth in SDG&E's original VGI proposal, and in the Proposed Settlement, is to help implement the goals set by the Governor and the State of California to deploy EV charging infrastructure to support a growing number of PEVs, to reduce GHGs, and to increase the use of renewable sources of energy.

24. The objective and goals behind SDG&E's VGI program are set forth in the Governor's Executive Order, and in various California statutes, as described in § 5.2. of today's decision.

25. The legislative direction to encourage the development of an EV charging infrastructure and to promote the widespread adoption of EVs so as to reduce GHG emissions, and to promote the use of renewable energy resources, must not be ignored.

26. The deployment of EV charging infrastructure will help assure potential purchasers of EVs that EV charging will be available.

27. The VGI rate is designed to optimize the use of the energy on the electric grid by offering lower electricity rates to EV drivers and site hosts of the EV site

installations to encourage EV charging during off-peak electricity periods, and to maximize the use of energy generated from renewable resources during off-peak periods.

28. The VGI rate will be made available on a day-ahead basis so that the EV drivers and site hosts are aware of the price of electricity on an hourly basis for their EV charging needs.

29. The VGI rate for different hours of the day will be calculated by SDG&E, taking into account the amount of electricity that will be generated during the various hours of the day, the price of electricity, and anticipated congestion conditions on the grid and circuits.

30. If the VGI Rate-to-Host option is selected, the site host or its selected vendor will be required to supply SDG&E with a plan for managing the EV charging load.

31. Although some of the parties may disagree with the cost, size, or scope of the VGI program, none of the parties disagree with the goal of the VGI program to optimize the use of the energy on the electric grid by offering lower electricity rates to EV drivers and site hosts of the EV site installations to encourage EV charging during off-peak electricity periods, and to maximize the use of energy generated from renewable resources during off-peak periods.

32. The electrification of vehicles used for transportation offer opportunities to reduce air pollution and GHGs.

33. The goal of SDG&E's original VGI proposal, and as modified in the Proposed Settlement, is a reasonable concept to pursue because it responds to the call in R.13-11-017 for utility activities that support VGI initiatives.

34. The VGI proposal is consistent with R.13-11-007 because it will evaluate the potential and value of VGI activities that capture the benefits of PEV battery

storage for managed charging, and for providing demand response ancillary services to the grid and power markets.

35. The VGI proposal addresses the concerns in Public Utilities Code Section 740.2 about: (1) the widespread use of PEVs and EVs and the role and development of public charging infrastructure; (2) the impact of EVs and PEVs on grid stability and the integration of renewable energy resources; and (3) the widespread use of PEVs and EVs to achieve the state's goals regarding the reduction of GHGs, obtaining more electric generation from renewable sources of energy, and the shifting of emissions reductions responsibilities from the transportation sector to the electric industry.

36. The cost and size are the two largest disagreements that the non-settling parties have with SDG&E's original VGI proposal, and with the Proposed Settlement.

37. For the cost of SDG&E's original VGI proposal, and the Proposed Settlement, SDG&E and the settling parties are requesting the same amount, almost $103 million.

38. Under SDG&E's original VGI proposal, and the Proposed Settlement, SDG&E and the settling parties are requesting authorization for up to 550 EV site installations, and up to 5,500 EV charging stations, to be deployed over a four to five year period, and that SDG&E would be the owner of the EV site installations and the EV charging stations.

39. The cost of the VGI program under SDG&E's original VGI proposal, and the Proposed Settlement, will be nearly $103 million over the 22 year recovery period, which exceeds the cost of typical pilot programs, or research, development, and demonstration projects, that the Commission has authorized in the past.

40. The societal benefits of the VGI program must be weighed with who will receive the direct benefits of the VGI program, who will end up paying for the program, and whether potential site hosts and potential EV owners will respond as SDG&E and others predict.

41. With the challenges of convincing consumers to switch from gasoline fueled vehicles to EVs, and the uncertainties about how the projected EV adoption rate was derived, we are not as certain about the EV adoption rate.

42. In order to secure the sites needed to locate the EV site installations and associated EVSE, the property owners of prospective MUD and workplace sites will need to consent, provide an easement, and pay a participation fee under the Proposed Settlement.

43. Getting sufficient property owners to agree to the preconditions of siting an EV site installation and associated EVSE at a MUD or workplace may prove more difficult to obtain than in theory.

44. There are still many unknowns regarding the EV market, and how potential site hosts and EV owners will respond to the VGI program.

45. We do not want to approve and authorize a pilot project that will cost $103 million without being able to timely review and evaluate the progress of the VGI program.

46. It would be foolhardy to authorize a VGI pilot program of $103 million, using ratepayer money, without some assurance that EV drivers will be using these site installations and charging stations on a frequent basis, and that such a deployment will result in a widespread adoption of EVs for everyday transportation.

47. In applying the balancing test, the Commission stated in D.14-12-079 that the Commission will assess the likely competitive impact on the market segment

targeted, and whether any anticompetitive impacts can be prevented or adequately mitigated through the exercise of existing rules or conditions.

48. Under the Proposed Settlement, the site hosts or their designees, have two options that were not offered as part of SDG&E's original VGI proposal: (1) the site host or designee can choose to take service under the VGI Rate-to-Host billing option, and (2) they can choose the EVSE and related services that they want from preapproved vendors under either the VGI Rate-to-Driver or the VGI Rate-to-Host billing options.

49. These two options appear to mitigate some of the concerns about anticompetitive impacts by offering the site host two billing options under the VGI rate, and allowing preapproved third party providers to offer EVSE and related services to site hosts, which promotes competition and innovation.

50. Under SDG&E's original VGI proposal, and the Proposed Settlement, if the EV market does not develop as projected after four to five years, SDG&E will be one of the leading providers of EV charging in the San Diego region at the end of that period.

51. Public Utilities Code Section 740.8 defines the "interests" of ratepayers as it is used in Public Utilities Code Section 740.3(c).

52. We find merit in adopting some of CESA's recommendations to mitigate possible anticompetitive impacts.

53. Under SDG&E's original VGI proposal, the 100% ownership of the EV site installations, combined with the SDG&E prescribed specifications for the EVSE, and providing the EVSE infrastructure to site hosts at no cost, may result in anticompetitive impacts on EV charging operators and EVSE manufacturers.

54. Under the Proposed Settlement, the anticompetitive impacts would be reduced because site hosts would be allowed to choose the EVSE and related

services from preapproved vendors, the site hosts could choose the VGI Rate-to-Host option, and the site host would be obligated to pay a participation fee.

55. If the cost and the size of the VGI program is reduced from what is being offered in the Proposed Settlement, that would strengthen the reasoning for finding that a scaled down VGI program will not result in SDG&E unfairly competing with nonutility enterprises because the number of EV site installations and charging stations owned by SDG&E would be reduced.

56. Rejecting SDG&E's original VGI proposal and the Proposed Settlement outright without the adoption of an alternative program will delay efforts to reach the state's goals and targets.

57. Pursuant to Rule 12.4, when the Commission rejects a settlement, one of the steps it can take is to propose alternative terms that are acceptable to the Commission and allow the parties reasonable time within which to elect to accept such terms or to request other relief.

58. We find merit in authorizing and adopting an alternative VGI program similar to the Proposed Settlement, but on a reduced scale.

59. The alternative VGI program terms that are acceptable to this Commission are attached to this decision as Attachment 2.

60. The Proposed Settlement serves as a template for the alternative VGI program terms because it offers a viable framework to deploy the VGI rate at EV charging infrastructure located at MUDs and workplaces, which allow site hosts to choose the VGI Rate-to-Host option, and to choose the EVSE and related services from preapproved vendors, and has procedures in place to encourage involvement by the PAC and CBOs.

61. There is value in SDG&E retaining 100% ownership of the EV charging stations for this pilot program to ensure that all of these ratepayer-funded charging stations are working and remain available for EV charging.

62. Along with other EV pilot program results and available market data, the ownership of the EV charging stations by SDG&E may inform future Commission action on EV charging infrastructure ownership, and related transportation electrification issues.

63. The alternative VGI program terms do not require SDG&E to install stand-alone make ready stubs.

64. We decline to set aside part of the VGI program funds approved in today's decision to help fund the deployment of EV charging infrastructure by third parties because the alternative VGI program terms contains provisions that will encourage third party competition.

65. Due in part to the uncertainty of how site hosts and potential EV purchasers will respond to the large scale deployment of 550 site installations, and 5,500 charging stations, a scaled down version of the Proposed Settlement is warranted.

66. The alternative VGI program terms agreeable to the Commission include the following: allow SDG&E to install approximately 350 EV site installations, with approximately 3,500 charging stations, over a three year sign-up period, with charging infrastructure installations allowed to continue for one additional year; allow SDG&E to rate base and to justify and recover the capital and O&M costs and associated revenue requirements of the site installations and charging stations over their useful lives in future general rate case proceedings; and this alternative VGI program shall be subject to a maximum start-up budget of $45 million.

67. The $45 million budget limit is based on the total cost of 350 EV site installations and 3,500 EV charging stations over the first three years of the VGI program (plus a fourth year to complete the installation of the VGI facility infrastructure at host sites enrolled within the three year sign up period of the program) as originally proposed in Exhibit SDG&E-4, Table JBA-5.

68. It is reasonable under the start-up budget for SDG&E to install at least 3000 EV charging stations at a minimum of 300 sites, and budget permitting, to install 3500 EV charging stations or more at a minimum of 350 sites or more.

69. The cost, size, and duration of the alternative VGI program terms is more reflective of a pilot program.

70. The alternative VGI program terms shall require SDG&E to select site host locations that represent a diversity of circuits.

71. SDG&E's site selection in the 2016 VGI Pilot Program should coordinate and leverage the work being performed in R.14-08-013.

72. To ensure that the budget approved for the alternative VGI program is spent wisely, two additional Guiding Principles have been incorporated into the alternative VGI program terms.

73. The alternative VGI program terms shall require that between 40% and 60% of all pilot program site installations and charging stations are to be sited at MUDs, and shall establish a target of 50%.

74. Pursuant to Civil Code Section 1947.6, a tenant of a residential rental property can make a request of the landlord to install an EV site installation.

75. Since the VGI rate is based on a time-differentiated hourly rate, it may be more advantageous to use a slower charging method such as Level 1 and Level 2 charging.

76. The alternative VGI program terms shall not require the use of DC fast chargers.

77. The alternative VGI program terms shall require SDG&E to work with the CBOs to identify disadvantaged communities that could benefit the most from the deployment of EV site installations.

78. It is reasonable to require at least 10% of charging stations be deployed in disadvantaged communities, using either a service territory-based or a state-wide definition of the term, whichever is broader.

79. More frequent monitoring and reporting of the VGI program is needed.

80. The alternative program terms shall include the following: SDG&E shall have quarterly check-in meetings with the Commission's Energy Division to provide the staff with updates concerning the information set forth in today's decision; SDG&E shall file semi-annual reports in R.13-11.007, or a successor proceeding, containing the information described in today's decision, and in the manner described in today's decision; and parties may file and serve opening and reply comments on the semi-annual reports in the manner described in today's decision.

81. All of the data that is being required through the alternative VGI program terms will be useful in evaluating SDG&E's VGI program, to decide if any changes need to be made, and to help decide whether the VGI pilot program should be expanded or if other EV programs should be launched.

82. Under the VGI Rate-to-Driver option, SDG&E will be engaged in submetering when it provides billing to each individual EV charging customer using an EV charging station on the VGI Rate-to-Driver option.

83. The alternative VGI program terms has included a reference to D.13-11-002 as an example of the submetering protocol for SDG&E's analogous multiple customers of record submetering pilot.

84. The alternative VGI program terms does not adopt specific interoperability standards for the VGI pilot program.

85. The alternative VGI program terms makes a change to the PAC regarding the possible involvement of the San Diego Association of Governments.

86. The Proposed Settlement already contains provisions to conduct education and outreach, which have been incorporated into the alternative VGI program terms.

87. There is no need to require that a certain percentage of the approved VGI program budget be used for education and outreach efforts.

88. EVSE providers or vendors who are prequalified as part of the 2016 VGI Pilot Program will be permitted to provide V2G as a complementary service if it is consistent with the guidelines described in this decision.

89. Since SDG&E will be the owner of the EV site installations and the EV charging stations, the line extension rules and Public Utilities Code Sections 454 and 783 do not apply because SDG&E is not extending service to a customer.

90. We decline to require as part of the alternative VGI program terms that SDG&E obtain the electricity for its EV site installations from an ESP because such a requirement would add another layer of complexity to the design of the VGI rate.

91. The requirements in Attachment 2 of this decision will ensure that the construction, installation, and operation of the EV site installations and charging stations comply with all applicable safety regulations and codes.

92. The long run societal benefit of transportation electrification benefits society as a whole, which makes it difficult to apportion 10% of the program costs to those customers living in disadvantaged communities.

93. The alternative VGI program terms are: (1) more reasonable and responsive to the concerns of the parties representing a ratepayer perspective; and (2) balances the interests of SDG&E, its ratepayers, and all the other parties, with the societal interests of reducing GHG emissions and promoting the use of renewable resources through the integration of a VGI rate for EV charging.

Conclusions of Law

1. D.14-12-079 adopted rules to expand the utilities' role in the development and ownership of EV infrastructure by using a case-specific approach, and also set aside the prohibition adopted in D.11-07-029 that electric utilities could not own EV charging infrastructure.

2. In deciding whether the Proposed Settlement regarding SDG&E's VGI proposal should be approved or not, and in deciding whether SDG&E's original VGI proposal or a scaled down version of the proposal should be adopted, the following four considerations are to be adhered to: (1) Public Utilities Code Section 451 which provides that the charge to ratepayers must be just and reasonable; (2) the directive set forth in D.14-12-079 regarding utility ownership of PEV charging infrastructure and the balancing test set forth in D.11-07-029; (3) the various applicable code sections, and the Governor's Executive Order and ZEV Action Plan; and (4) Rule 12.1(c) regarding approval of a settlement.

3. Since the Proposed Settlement is based on SDG&E's original VGI proposal, as modified by the Proposed Settlement, we need to analyze the elements of SDG&E's underlying VGI proposal, together with the modifications that the Proposed Settlement would make, applying the four considerations.

4. Although SB 350 specifically exempts SDG&E's VGI application from the transportation electrification provisions of newly added Public Utilities Code Section 740.12, many of the provisions of that code section are instructive as to why the Commission should forge ahead with projects such as a VGI pilot program.

5. There is sufficient legal authority for the Commission to approve and authorize some form of a VGI program to be implemented by SDG&E.

6. In considering what action we need to take in terms of promoting EVs and EV charging infrastructure, that needs to be balanced with the statutory requirement in Public Utilities Code Section 451 of having just and reasonable rates.

7. The environmental concerns and interests of some of the parties are reflected in Public Utilities Code Sections 740.2, 740.3, and 740.8.

8. Before EV program costs can be passed on to SDG&E's ratepayers, the requirements in Public Utilities Code Sections 740.3(c) and 740.8 must be met.

9. It would not be a wise use of ratepayer monies to authorize a pilot project of the cost and size contemplated in SDG&E's original VGI proposal and in the Proposed Settlement.

10. The cost and size of the VGI pilot project should be reduced.

11. The charges SDG&E's ratepayers would have to pay for SDG&E's original VGI proposal, or the VGI program in the Proposed Settlement, would be unjust and unreasonable under Public Utilities Code Section 451.

12. In D.14-12-079, the Commission set aside the prohibition adopted in D.11-07-029 that electric utilities could not own EV charging infrastructure.

13. The rules adopted in D.14-12-079 regarding utility ownership of EV charging infrastructure consist of using a case-specific approach to assess any

proposed utility program based upon the facts of specific requests, and to use the balancing test adopted in D.11-07-079.

14. The balancing test adopted in D.11-07-079 weighs the benefits of utility ownership of the EV charging infrastructure against the competitive limitation that may result from that ownership.

15. Applying the balancing test in D.14-12-079 and D.11-07-029, the ratepayers' interests and benefits as described in Public Utilities Code Sections 740.3 and 740.8, and the concern of unfair competition in Public Utilities Code Section 740.3(c), the EVSE ownership by SDG&E should be permitted in a scenario as proposed by SDG&E in the Proposed Settlement, or in a scaled down VGI pilot program patterned after the Proposed Settlement, and that such ownership would be in the ratepayers' interests and outweigh the disadvantages that could result from a lack of competition.

16. Applying the same tests to SDG&E's original VGI proposal, the tests would not be met, and SDG&E should not be allowed to own the EVSE infrastructure.

17. Before the costs of the VGI program can be passed on to SDG&E's ratepayers, the Commission must, pursuant to Public Utilities Code Section 740.3(c), find and determine: (1) that the program is in the ratepayers' interests; and (2) that the utility does not unfairly compete with nonutility enterprises.

18. Public Utilities Code Section 740.8, as well as Public Utilities Code Sections 701.1, 740.2, and 740.3, rebut CFC's contention that the VGI pilot program is outside the scope of SDG&E's provisioning of utility service.

19. For the reasons stated in the decision, we do not agree with TURN's original interpretation of Public Utilities Code Section 740.8.

20. Under the ratepayers' interests test, as set forth in Public Utilities Code Sections 740.3(c) and 740.8, the VGI program would be in the ratepayers' interest.

21. If SDG&E's original VGI proposal were to be adopted by the Commission, it is questionable whether the costs of such a program could be passed on to ratepayers because of the anticompetitive impacts.

22. If the Proposed Settlement were to be adopted by the Commission, the anticompetitive impacts would be less of a concern for passing on the costs of such a program to ratepayers.

23. A scaled down version of the Proposed Settlement would meet the criteria passing those costs on to SDG&E's ratepayers.

24. In authorizing and approving an alternative program, the Commission needs to be cognizant of existing code sections, including Public Utilities Code Section 451, and to weigh and balance the state's policy objectives, and the cost and benefits of such an alternative.

25. SDG&E's request in A.14-04-014 to adopt its original VGI proposal should be denied.

26. The Proposed Settlement is unreasonable in light of the whole record, and is inconsistent with the law because the charges to SDG&E's ratepayers for the Proposed Settlement would be unjust and unreasonable under Public Utilities Code Section 451.

27. The Settlement Motion's request to adopt the Proposed Settlement should be denied.

28. The May 28, 2015 ruling that denied ORA's motion to consolidate the three electric utilities' applications and to hold hearings on ORA's Cal EVIP proposal, is affirmed.

29. Today's decision does not adopt ORA's Cal EVIP proposal.

30. The Energy Division should monitor how Civil Code Section 1947.6 may affect the placement of EV site installations, and to bring this to the attention of the California Energy Commission and the ARB and to cooperate with those agencies regarding this issue.

31. The Commission should delegate to the Commission's Energy Division the authorization to resolve disputes, and to modify and approve modifications to the 2016 VGI Pilot Program that are minor in nature and which are not specified in this decision to be submitted by an Advice Letter.

32. The revenue generated from the participation payments from the 2016 VGI Pilot Program shall be used to offset the O&M costs of the program, and SDG&E should be directed to establish a memorandum account to achieve this purpose.

33. SDG&E's request that the VGI program be found eligible for funding from the GHG revenues does not meet the requirements set forth in Public Utilities Code Section 748.5 and D.14-10-033.

34. SB 350 will affect all future actions of the Commission regarding transportation electrification activities.

35. Public Utilities Code Section 740.12(d) excludes SDG&E's VGI application from Public Utilities Code Section 740.12 because that code section applies to all applications for transportation electrification programs and investments filed on or after January 1, 2016.

36. Public Utilities Code Section 740.12(b) clearly contemplates that all future applications for programs and investments to accelerate widespread transportation electrification should be reviewed based on the policies expressed in Public Utilities Code Section 740.12.

37. Any future request of SDG&E to expand the 2016 VGI Pilot Program, or to apply the lessons learned from the 2016 VGI Pilot Program to other

transportation electrification programs or investments, is to be filed in a new application.

38. If SDG&E decides to accept the alternative VGI program terms, CARE customers should be excluded from paying the costs associated with the 2016 VGI Pilot Program.

39. As part of the alternative VGI program terms, SDG&E should be authorized to establish the one-way interest-bearing VGIBAwhich shall be subject to the $45 million budget limit for the 2016 VGI Pilot Program.

40. SDG&E is authorized to justify and seek recovery of its capital and O&M costs for the 2016 VGI Pilot Program in its general rate case proceedings.

41. The alternative VGI program terms, and the 2016 VGI Pilot Program contained therein, is reasonable in light of the record developed in these proceedings, consistent with the law, and is in the public interest

O R D E R

IT IS ORDERED that:

1. The June 3, 2015 "Joint Motion for Adoption of Settlement Agreement" is denied, and the "Settlement Agreement Regarding San Diego Gas & Electric Company's Vehicle-Grid Integration Pilot Program Application, A.14-04-014" is not adopted.

2. The request of San Diego Gas & Electric Company (SDG&E) in Application (A.) 14-04-014 for authority to implement a pilot program for electric vehicle-grid integration is granted on the terms and conditions specified in Ordering Paragraph 3 of this decision. However, SDG&E's request for authority to

implement the pilot program described in A.14-04-014, and which was the subject of evidentiary hearings, is denied.

3. Pursuant to Rule 12.4(c) of the Commission's Rules of Practice and Procedures, the Commission proposes alternative vehicle-grid integration (VGI) program terms to replace the rejection of the "Settlement Agreement Regarding San Diego Gas & Electric Company's Vehicle-Grid Integration Pilot Program Application, A.14-04-014" (Proposed Settlement) as described in Ordering Paragraph 1.

   a. The alternative terms acceptable to the Commission for a VGI pilot program is described in this decision, and is summarized in Attachment 2 of this decision. The alternative terms are referred to in this decision and in Attachment 2 as the "alternative VGI program terms." The alternative VGI program terms authorizes and approves a $45 million start-up budget, plus cost recovery through future general rate case proceedings for justified capital and operations and maintenance expenses, for San Diego Gas & Electric Company (SDG&E) to implement the "2016 Vehicle VGI Pilot Program," which is patterned after the Proposed Settlement, with the additional modifications made by this decision. These additional modifications include targeting 350 electric vehicle (EV) site installations (with a minimum of 300), and targeting 3500 EV charging stations (with a minimum of 3000), over a three year target sign-up period. Sign-ups may extend beyond three years budget permitting, and the installation period shall extend one additional year after the sign-up period.

   b. SDG&E shall have 30 days from today's date to accept the alternative VGI program terms, and to proceed with the 2016 VGI Pilot Program. To accept these alternative VGI program terms, SDG&E shall send a letter of acceptance to the Commission's Executive Director, which shall also be served on the service list in these proceedings, accepting the alternative VGI program terms, and stating that it will implement the 2016 VGI Pilot Program on the terms and conditions set forth in Attachment 2 of this decision, and as described in this decision.

c. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall within 30 days of its letter of acceptance, file a Tier 2 advice letter establishing the 2016 VGI Pilot Program, and the pricing formula that goes into calculating the VGI rate.

d. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall within 30 days of its letter of acceptance, file a Tier 2 advice letter to establish its one-way, interest bearing, Vehicle-grid Integration Balancing Account (VGIBA) which shall be capped by the authorized start up budget amount of $45 million.

e. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, the customers in SDG&E's service territory who are on the California Alternate Rates for Energy program shall be excluded from paying for the costs of the 2016 VGI Pilot Program.

f. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall within 120 days of its letter of acceptance, file a Tier 2 advice letter to establish the criteria upon which the participation payment to be paid by the site host is to be calculated.

g. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall within 120 days of its letter of acceptance, file a Tier 2 advice letter to establish a memorandum account to apply the participation payments it receives from the 2016 VGI Pilot Program to offset the operations and maintenance costs incurred from this program.

h. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall within 30 days of its letter of acceptance, file a Tier 1 advice letter concerning the use of the broader definition for determining the eligible disadvantaged communities that are to be targeted.

i. The three year sign-up period for the 2016 VGI Pilot Program, as established by this decision, shall commence after the advice letters described in this Ordering Paragraph 3 have been approved by the Commission.

j. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall in accordance with this decision, maintain a publicly available website of a database of all the hourly vehicle-grid integration (VGI) rates being charged on all of its circuits that have a VGI rate, and a circuit map, and this database of the VGI rates shall be made available to the Commission upon demand.

k. If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall comply with all the meeting and reporting requirements as set forth in this decision and in Attachment 2.

4. If the 2016 VGI Pilot Program is implemented by San Diego Gas & Electric Company, the Commission's Energy Division shall monitor the program, and carry out the activities described in this decision.

a. The Energy Division of the Commission is delegated the authority to resolve disputes, and to modify and approve modifications to the 2016 VGI Pilot Program that are minor in nature and which are not specified in this decision to be submitted by an Advice Letter.

5. Any future request of San Diego Gas & Electric Company to expand the 2016 VGI Pilot Program, or to apply the lessons learned from the 2016 VGI Pilot Program to other transportation electrification programs or investments, shall be filed in a new application.

6. Application 14-04-014 is closed, and shall no longer be consolidated with Rulemaking 13-11-007.

7. Rulemaking 13-11-007 remains open.

This order is effective today.

Dated _____, at San Francisco, California.

ATTACHMENT 1

ATTACHMENT 1

ABBREVIATIONS

Term	Abbreviation
Administrative Law Judge	ALJ
Air Resources Board	ARB
Alternative-fuel vehicle	AFV
Americans with Disabilities Act	ADA
California Alternate Rates for Energy	CARE
California Electric Vehicle Infrastructure Pilot	Cal EVIP
California Energy Storage Alliance	CESA
ChargePoint, Inc.	ChargePoint
Community based organization	CBO
Consumer Federation of California	CFC
Distributed energy resources	DER
Distribution Resource Plan	DRP
Diversified business enterprise	DBE
Electric service provider	ESP
Electric Vehicle Infrastructure Training Program	EVITP
Electric vehicle service provider	EVSP
Electric vehicle supply equipment	EVSE
Environmental Defense Fund	EDF
Federal Executive Agencies	FEA
Geographic information systems	GIS
Greenhouse gas	GHG
Green Power Institute	GPI
Health & Safety Code	H&S
International Brotherhood of Electrical Workers	IBEW
Joint Minority Parties	JMP
Kilowatt hour	kWh
KnGrid, LLC	KnGrid
Low carbon fuel standard	LCFS
Multi-unit dwelling	MUD
Natural Resources Defense Council	NRDC
Office of Ratepayer Advocates	ORA

Operations and maintenance	O&M
Order Instituting Rulemaking	Rulemaking or R.
Plug In America	PIA
Plug-in electric vehicle	PEV
Prehearing conference	PHC
Program Advisory Council	PAC
Ratepayer Impact Measure	RIM
Request for information	RFI
Request for proposal	RFP
San Diego Gas & Electric Company	SDG&E
Senate Bill	SB
Shell Energy North America (US), L.P.	Shell Energy
Siemens AG	Siemens
Time of use	TOU
The Utility Reform Network	TURN
Utility Consumers' Action Network	UCAN
Vehicle grid integration	VGI
Vehicle grid integration balancing account	VGIBA
Vehicle to grid	V2G
Zero emission vehicle	ZEV

(End of Attachment 1)

ATTACHMENT 2

ATTACHMENT 2
Alternative VGI Program Terms

The California Public Utilities Commission (Commission) authorizes and approves a 2016 Vehicle Grid Integration (VGI) Pilot Program (2016 VGI Pilot Program), and cost recovery, for San Diego Gas & Electric Company (SDG&E).

This approved 2016 VGI Pilot Program is based on the VGI framework that SDG&E proposed in Application (A.) 14-04-014 on April 11, 2014, and on the modifications that were made to SDG&E's VGI framework in the "Settlement Agreement Regarding San Diego Gas & Electric Company's Vehicle-Grid Integration Pilot Program Application, A.14-04-014" (Settlement Agreement). SDG&E's VGI framework as proposed in A.14-01-014, and the Settlement Agreement which was attached to the June 3, 2015 "Joint Motion for Adoption of Settlement Agreement," were not adopted in Decision (D.) 16-01-____. However, in D.16-01-____, the Commission authorizes and approves the 2016 VGI Pilot Program, which is patterned after the Settlement Agreement, but is reduced in cost, size and scope, as well as other changes as described in D.16-01-_____. The changes made in D.16-01-____ to the 2016 VGI Pilot Program are reflected in this Attachment, which reflect the Alternative VGI Program Terms that are acceptable to the Commission, as provided for in Rule 12.4(c) of the Commission's Rules of Practice and Procedure. The approved 2016 VGI Pilot Program shall be governed by the terms and conditions as set forth in D.16-01____ , and in this Attachment. SDG&E shall adhere to the terms and conditions of the 2016 VGI Pilot Program as set forth in this Attachment.

Definitions

As used in this Attachment, which is entitled "Alternative VGI Program Terms", the following definitions apply:

"Air Resources Board" means the California Air Resources Board of the California Environmental Protection Agency.

"Alternative VGI Program Terms" means Attachment 2 to D.16-01-____, and which sets forth the terms and conditions of the 2016 VGI Pilot Program.

"Application" means SDG&E's Application A.14-04-014 filed with the Commission April 11, 2014.

"Attachment" means Attachment 2 to D.16-01-____, which reflects the Alternative VGI Program Terms that are acceptable to the Commission as provided for in Rule 12.4(c) of the Commission's Rules of Practice and Procedure.

"Commission" means the California Public Utilities Commission.
"DBE" means a disadvantaged business enterprise certified by The Supplier Clearinghouse pursuant to Commission General Order 156.
"DC Fast Charging" means a method of quickly charging certain electric vehicles with a high power direct current (DC) charging source.
"Disadvantaged Communities" means disadvantaged communities as identified by the California Environmental Protection Agency's Enviroscreen tool developed pursuant to SB 535 (de León, 2013).
"Energy Division" means the Energy Division of the California Public Utilities Commission.
"EV Driver" means a person using VGI Facilities to charge an EV.
"EV" means an electric vehicle that is capable of being charged using EVSE.
"EVSE" means electric vehicle supply equipment used for charging EVs (SDG&E Rebuttal Testimony Ex. SDG&E 8, p. JPA-4, footnote 6).
"Guiding Principles" means those guiding principles set forth in this document.
"MUD" means multi-unit dwelling.
"PAC" means the VGI Program Advisory Council.
"SDG&E" means San Diego Gas & Electric Company, a California regulated public utility.
"Settlement Agreement" means the Settlement Agreement that was reached between some of the parties to these proceedings, which the settling parties filed a June 3, 2015 motion requesting that the Commission adopt the Settlement Agreement, and in which the motion to adopt the Settlement Agreement was denied in D.16-01-_____.
"VGI Facility" means a group of EVSE or charging stations installed with a separate electric service.
"VGI Program Advisory Council" means the stakeholder advisory council formed pursuant to this Attachment.
"VGI Rate" means the dynamic hourly EV charging rate described in SDG&E's direct testimony, Ex. SDG&E-3 (Fang).
"VGI Rate-to-Driver" means the VGI Rate billing plan option where the VGI Rate is offered directly to the EV driver as originally proposed in SDG&E's Application.
"VGI Rate-to-Host" means the VGI Rate billing option where the VGI Rate is billed to the VGI Facility site host as outlined in this Attachment.
"2016 VGI Pilot Program" means the scaled down Vehicle-Grid Integration Pilot Program as proposed by SDG&E in Application 14-04-014, as modified by the Settlement Agreement, and as further modified by Decision 16-01-____.

Guiding Principles

The following Guiding Principles shall guide SDG&E's 2016 VGI Pilot Program implementation.

1. Must support the Governor's and California state goals to:
   a. Achieve installation of grid-integrated infrastructure to support 1 million zero emission vehicles (ZEVs) by 2020;
   b. Accelerate the adoption of 1.5 million ZEVs by 2025;
   c. Support clean air and climate change objectives.
2. Must be structured to provide net benefits to all ratepayers.
3. Must protect ratepayers by ensuring that assets continue to be used and useful.
4. Must provide electric vehicle (EV) drivers the opportunity to maximize fuel cost savings relative to conventional transportation fuels.
5. Must provide equitable deployment of services to all ratepayers, including statutory requirements and directives to serve disadvantaged communities and increase access to clean transportation.
6. Must provide customer choice.
7. Must support broad-based investment in EV charging equipment and services by public, private and utility entities and avoid anticompetitive impacts on the markets for EV charging equipment and related services.
8. Must manage program costs.
9. Must incorporate learning-by-doing and make adjustments to the 2016 VGI Pilot Program as needed.
10. Must provide data to help inform State policy.
11. Must utilize rate design and load management practices to facilitate the integration of renewable energy resources, as well as deliver other grid benefits.
12. Must align with SDG&E's companywide Diversified Business Enterprise ("DBE") goal of 40% and request subcontractors to provide proposals in support of the 40% goal.
13. Must complement other utility clean energy programs and other non-utility programs, such as those being implemented pursuant to the Charge Ahead California Initiative (Stats. 2014, Ch. 530), which will build consumer demand for clean energy and zero emission vehicles.

Modifications To SDG&E's VGI Framework

The following modifications are made to SDG&E's VGI framework as originally proposed in A.14-04-014.

1. Total start-up funding of SDG&E's 2016 VGI Pilot Program shall be $45 million, which shall be paid for by the electric ratepayers of SDG&E, unless excluded by the terms of this document. SDG&E is authorized to

seek cost recovery of its ongoing capital and operations and maintenance expenses, and associated revenue requirement, that are justified in its future general rate case proceedings.

2. The total number of charging sites to be deployed under the 2016 VGI Pilot Program shall be approximately 350, and the total number of charging stations to be deployed shall be approximately 3500. The minimum number of sites to be deployed shall be 300, and the minimum number of charging stations to be deployed shall be 3000. Budget permitting, the sign-up period can be extended past the three-year sign-up period to sign-up and install additional charging sites and charging stations. The installation period shall continue for one year after the end of the sign-up period.

   Over the three-year sign-up period, between 40% and 60% of the EV charging stations, and between 40% and 60% of the site installations, shall be located at MUDs. SDG&E shall strive to deploy approximately 50% of all installations at MUDs.
3. SDG&E's 2016 VGI Pilot Program shall exclusively target multi-unit dwellings (MUDs) and workplaces to site the EV charging stations. The overall percentage distribution of EV charging stations sited at MUDs and workplaces should be approximately 50/50, and SDG&E shall try to achieve this percentage distribution throughout the sign-up period to become a site host. The distribution may not be less than 40% or more that 60% of charging stations (or sites) located at MUDs.

4. As part of the site selection criteria for the EV charging stations, SDG&E shall select site host locations that represent a diversity of circuits so that the 2016 VGI Pilot Program can be tested in a variety of circuit types and conditions.

5. SDG&E's site selection in the 2016 VGI Pilot Program should coordinate and leverage the work being performed in R.14-08-013.

6. The VGI facility site hosts (e.g., property manager/owner of a MUD or workplace setting) will have the choice of two billing options:[39]
    a. VGI Rate-to-Driver – the VGI Rate offered directly to the EV driver (as originally proposed), or
    b. VGI Rate-to-Host – the VGI Rate offered to the site host.

7. SDG&E shall endeavor to enroll a significant number of EV site installations under both VGI billing options.

8. Where the VGI Facility site host opts to receive the VGI Rate (i.e., the VGI Rate-to-Host pricing plan), the site host, or its selected vendor, will be required to submit to SDG&E the load management tactics it will implement at its VGI Facility, including the incremental costs and equipment required to implement the load management tactics, the prices or fees that it intends to levy on VGI Facility users (EV drivers)[40], and any vehicle or EVSE communication systems necessary to implement the load management tactics. Site hosts that do not submit load management plans consistent with the Guiding Principles will be asked by SDG&E to revise accordingly and will be ineligible to participate in the 2016 VGI Pilot Program until SDG&E determines that the load management plan is consistent with the Guiding Principles. Participation in the VGI Rate-to-Host option will not be unreasonably withheld. As with VGI Facility site hosts that opt for the VGI Rate-to-Driver pricing plan, site usage patterns will be monitored, and in addition, site host determined prices or fees (to use the VGI Facility) will be tracked for those site hosts that opt for the VGI Rate-to-Host pricing plan. These data will be used to inform Commission policy.

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[39] VGI facility site host refers to any MUD or workplace site host entity or person that has decision making authority at such site, such as, but not limited to a third party, property manager, or property owner of a MUD or a workplace setting or similar site (i.e., with frequently used, long duration parking). For purposes of clarification, this 2016 VGI Pilot Program is not available to single family residential customers, and public parking locations that do not serve and support MUD or workplace settings.

[40] SDG&E recognizes that site hosts on the VGI Rate-to-Host pricing plan may want the flexibility to change prices or fees over time, as appropriate.

9. VGI Facility site hosts will choose electric vehicle supply equipment ("EVSE") and related services from a list of vendors pre-qualified by SDG&E to provide such services for the 2016 VGI Pilot Program. SDG&E's 2016 VGI Pilot Program does not include the installation of DC Fast Charging equipment.

10. SDG&E will assess a 2016 VGI Pilot Program participation payment on VGI Facility Site Hosts that elect to participate in the 2016 VGI Pilot Program. The participation payment must be used to offset the pilot program operation and maintenance costs, which shall be tracked in a memorandum account established for that purpose. The participation payment will be waived for VGI Facilities at sites located in Disadvantaged Communities. SDG&E shall file for approval of the proposed participation payment, after consulting with the VGI Program Advisory Council (as described below), by way of a Tier 2 advice letter. 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. While the participation payment approach adopted in D.16-01-023 satisfies these criteria, other approaches and payment magnitudes may also be considered.

11. After the first year of participation in the 2016 VGI Pilot Program, the VGI Facility site host shall have an annual option to switch VGI Rate plans (i.e., the VGI Rate-to-Driver pricing plan or VGI Rate-to-Host pricing plan). In the event that ownership or control of a VGI Facility site changes, the new site host shall have the option to select a VGI Rate plan, consistent with current utility tariff and billing practices.

12. Third party vendors of EVSE and services pre-qualified by SDG&E for the 2016 VGI Pilot Program may offer and contract with the VGI Facility site host to provide any additional or complementary services, such as vehicle to grid, as long as these services do not interfere with the objectives of the 2016 VGI Pilot Program. Specifically, such services may not include activities, agreements, arrangements, policies or procedures that inhibit the ability of the EV driver or VGI Facility site host to respond to the pricing signal of the VGI Rate. The costs of these additional services will not be borne by the 2016 VGI Pilot Program, unless they are complementary services necessary to support the VGI Program objectives. As such, as

noted in Appendix C, SDG&E will encourage discussions during the RFI process that allow vendors to explore with SDG&E the funding of innovative opportunities that may exceed the minimum implementation requirements of the 2016 VGI Pilot Program, and have the potential to enhance and improve the grid-integration outcomes of the 2016 VGI Pilot Program overall.

13. Third party vendors pre-qualified by SDG&E for the 2016 VGI Pilot Program, in coordination with SDG&E customer contact personnel, will market and sign-up potential VGI Facility site hosts to participate in the 2016 VGI Pilot Program in the two targeted customer segments (MUD and workplace settings), and in any other customer sub-segments identified in this Attachment (e.g., Disadvantaged Communities and housing or sites that support car-sharing entities). Responses to the RFP should reflect this requirement (see SDG&E's prepared direct testimony, Ex. SDG&E-2 (Schimka) p. 18 lines 7-20). Competitively neutral descriptions of the VGI Rate plans will be prepared by SDG&E and shall be used by third parties; 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. In order to create and maintain a positive customer experience with the 2016 VGI Pilot Program, the third parties will be required to describe how they will share the initial and ongoing customer relationships with SDG&E and the VGI Facility host and EV driver. Vendors will be permitted to contract directly with site hosts for services as long as these services do not interfere with the objectives of the 2016 VGI Pilot Program (as stated above).
    a. SDG&E will solicit participation from multiple third parties to provide equipment, install, maintain and operate the VGI System in a manner consistent with SDG&E's Supply Management policy and procedures.[41] Construction, installation and maintenance contractors will have Electric Vehicle Infrastructure Training Program (EVITP) certification, and SDG&E will require that all construction, installation and maintenance of VGI Facilities that is not performed by employees of SDG&E shall be performed by contractors

[41] See references to SDG&E's Supply Management policy and procedures as outlined in SDG&E's prepared direct testimony Exhibit SDG&E-2 (Schimka) p. 8 line 1 – p. 9 line 20.

signatory to the IBEW who hold a valid C-10 contractor's license, as defined in the governing labor agreement between SDG&E and the IBEW.

14. The 2016 VGI Pilot Program will be included within SDG&E's companywide Diversified Business Enterprise goal of 40%. (See SDG&E prepared testimony, Ex. SDG&E-2, pages RS-8, 9 and RS-19). The RFP and contract will contain a DBE subcontracting plan, which requires the bidder/contractor to list its expected annual DBE spend and list any subcontractors it plans to use to achieve its DBE goal. Bidders will be requested to provide proposals in support of SDG&E's 40% goal.

15. At least 10% of VGI Facilities will be installed in Disadvantaged Communities that are defined as the census tracts scoring in the top 25% of Cal EPA's Enviroscreen tool developed pursuant to SB 535 (de León, 2013). This top quartile shall be calculated on either a state-wide or a service territory basis, whichever is broader. SDG&E will work with community based organizations to assist with education and outreach, identifying the disadvantaged communities that could be benefit the most from the deployment of EV charging stations, as well as pre-qualifying and signing-up site hosts for participation in the 2016 VGI Pilot Program. In addition, SDG&E will:
    a. Scale up deployment of VGI Facilities at qualified locations above the 10% target (in line with screening criteria identified in SDG&E's prepared direct testimony, Ex. SDG&E-2 (Schimka) p. RS 7 lines 4-18) to support accelerated EV adoption in Disadvantaged Communities.
    b. SDG&E will complement and coordinate with federal, state and locally funded programs, such as those being developed by the Air Resources Board pursuant to SB 1275, that are expected to grow the demand for EVs in Disadvantaged Communities (e.g., EV car-sharing services), and Commission authorized programs that target low income customers and limited English proficiency customers.
    c. SDG&E will report to the Commission on whether a state-wide or a service territory basis for calculation of the top quartile in Enviroscreen is broader by submitting the number of census tracts qualifying as disadvantaged communities under both methodologies. This information shall be submitted by SDG&E in

a Tier 1 advice letter. In that advice letter, SDG&E shall request authorization to use the methodology that results in a larger number of qualifying census tracts.

16. All contractors shall have hiring goals to support opportunities to increase hiring from Disadvantaged Communities, including first-source hiring and targeted-hiring goals for projects in Disadvantaged Communities. The PAC will also monitor and provide recommendations, including specific numerical targets for meeting hiring targets, to contractors or subcontractors associated with the increase of hiring from Disadvantaged Communities, including best practices for hiring in Disadvantaged Communities.

17. SDG&E will solicit the participation of a broad and diverse stakeholder advisory group (the "VGI Program Advisory Council" or "PAC") in planning and implementing the VGI Program following its approval by the Commission. The VGI PAC will include representatives from local and state government (including representation from the Energy Division), industry, labor and other stakeholder participants, ratepayer and environmental advocates, and representatives of Disadvantaged Communities. SDG&E shall also seek the participation of the San Diego Association of Governments on the PAC. Details regarding the roles, responsibilities and frequency of meetings are described in Appendix A of this document.

18. With guidance from the VGI Program Advisory Council, SDG&E will make programmatic changes as needed during the course of the 2016 VGI Pilot Program in line with the Guiding Principles noted above. Certain programmatic changes may require filings with the Commission for approval. Programmatic changes will be made on an on-going basis, running concurrent with the 2016 VGI Pilot 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 this document 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.

SDG&E shall work with the VGI Program Advisory Council to select a geographic information system tool to track the progress and attributes of the 2016 VGI Pilot Program deployment.

19. 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 (for example, see D.13-11-002). SDG&E reserves the right to make exceptions as conditions of the 2016 VGI Pilot Program warrant. Minimum acceptable metering tolerance is anticipated to be 1% and if needed to meet meter testing and re-calibration requirements, removal (and replacement) of the entire EVSE will be acceptable.

    VGI bills will be sent directly to the SDG&E EV driver (SDG&E customer, as originally proposed) receiving the VGI Rate or to the VGI Facility site host receiving the VGI Rate under the VGI Rate-to-Host pricing plan. Data will be provided to SDG&E by the qualified third party to SDG&E's specifications in a manner acceptable to both parties to allow for this billing (see SDG&E's prepared direct testimony, Ex. SDG&E-2 (Schimka) p. 20 lines 1-19). Billing specifications per SDG&E's prepared testimony, Ex. SDG&E-7 (Schimka, Martin) p. ST-42 lines 8-13, are to send VGI rate on a day-ahead basis, allow customer (site host or EV driver) to set charging needs, meet these charging needs, collect usage data and send data to SDG&E for billing processing. For exceptional instances when a non-SDG&E customer is allowed by the VGI Facility site host at a site that is on the VGI Rate-to-EV Driver pricing plan to use the VGI Facility for vehicle charging temporarily, the site host will have the option to be the VGI Rate customer (i.e., enrolled in the VGI Rate), and will be billed for this usage, similar to how the site host is billed under the VGI Rate-to-Host pricing plan.

20. Unless directed otherwise by the Commission or budget permitting, SDG&E will cease marketing the VGI Program and will not sign-up any additional sites as of the end of the third year of 2016 VGI Pilot Program implementation, except for the limited exception described in this paragraph. Installation of VGI Facilities may continue into year four for sites signed up within the three year program, but for which installation has not been completed by the end of year three.

21. SDG&E will allow for flexibility in the design of the VGI Facility configuration to meet the needs of a host site. The costs of any incremental configuration needs will not be funded within the VGI Program (see SDG&E's prepared direct testimony, Ex. SDG&E-2 (Schimka) p. RS-7 lines 4-18). Implementation and site screening process will accommodate host site construction, tenant improvement timelines and situational needs. Some sites may be rejected due to physical limitations, unusually large construction costs and/or level of difficulty.

22. As stated throughout SDG&E's VGI Program proposal, SDG&E will contract with one or more third parties to provide operating systems and related hardware to control EVSE networks to implement the VGI system. It is SDG&E's aim to specify "what" is required to be achieved per the objectives of the VGI Program, and not "how" these requirements are met. This is intended to foster innovation and enhancement to the customer's experience. Although described in SDG&E's prepared direct testimony, Ex. SDG&E-2 (Schimka) p. RS-8 line 1 to p. RS-9, lines 1-20, further clarification of the RFI and RFP processes, in light of this document's modifications to SDG&E's VGI Program proposal, are further described in Appendix C of this document.

23. In order to provide an assessment of the 2016 VGI Pilot Program consistent with the Guiding Principles, six months after the 2016 VGI Pilot Program is launched, and every six months thereafter until February 1, 2021. SDG&E shall file an interim progress report in R.13-11-007 or in a successor proceeding, and shall post the report on its website and serve a notice of availability on the service lists in A.14-04-014 and R.13-11-007. The interim progress report shall include the information described in D.16-01-____, the data as described in Appendix B of this Atttachment, and a description of any programmatic changes implemented by SDG&E prior to the date of the report. Parties may then file and serve opening comments on each semi-annual report within 30 days of the service of the report in R.13-011-007, and may file and serve reply comments within 50 days of the service of the report.
    a. SDG&E shall be required to have a check-in meeting (in person or by telephone) with the Commission's Energy Division staff every three months to provide the staff with updates regarding the information described in D.16-01-____.

24. In order to prevent and mitigate potential anticompetitive activities, SDG&E will: (1) create appropriate firewalls to ensure that any non-utility EV site installations performed by SDG&E, or its contractors, that use third party charging platforms and applications, are not shared with or disclosed to personnel at SDG&E engaged in EV-related activities; (2) adopt policies and procedures to ensure that third party EV site installations are queued fairly for the interconnection process, and that the SDG&E EV site installations are not given priority or any preference; and (3) provide third party EV charging developers with information about the distribution system upgrade costs and load data for potential EV site installations. To discharge these mitigation measures, SDG&E should (1) accept the condition that none of its Clean Transportation staff will solicit, obtain, or pass on any proprietary data when engaged in assisting service connections for third party EV charging; (2) include language protecting such proprietary data when contracting with such third party EV charging vendors, and (3) for distribution system upgrade cost data, adhere to its current tariffed and Commission-approved policies and procedures that prioritize load and generation interconnections on a queued basis by data of application, and under which SDG&E provides cost and schedule data to developers when they apply to interconnect new load or generation.

25. Customers of SDG&E who are in the California Alternate Rates for Energy program shall be excluded from paying for the costs of the 2016 VGI Pilot Program.

26. SDG&E is authorized to establish a one-way, interest-bearing, VGI Balancing Account (VGIBA). The VGIBA shall be subject to the $45 million start-up budget limit that we approve in D.16-01-____ for the 2016 VGI Pilot Program. If SDG&E accepts the terms of the alternative VGI program terms, it will have 30 days from the date of SDG&E's acceptance to file a Tier 2 advice letter to establish the VGIBA.

Appendix A

Roles, Responsibilities of the VGI Program Advisory Council

SDG&E will solicit the participation of a broad and diverse stakeholder VGI Program Advisory Group ("VGI Program Advisory Council" or "PAC") in the planning and implementing the 2016 VGI Pilot Program, once it has been approved by the Commission. This independent advisory council will include representatives from local and state government (including representation from the Energy Division), industry and other stakeholders, ratepayer and environmental advocates, and representation from Disadvantaged Communities. Participation in the PAC will not be funded by the 2016 VGI Pilot Program. The PAC does not have formal decision-making authority. The PAC will make recommendations and/or provide key information and materials to the VGI Program Managers at SDG&E, who will organize and chair PAC meetings. Information will be provided to the PAC in a manner similar to SDG&E's Procurement Review Group.

Overall, the key role and purpose of the PAC will be to provide input to SDG&E for programmatic changes as needed during the course of the 2016 VGI Pilot Program (e.g., VGI Rate - as originally proposed, or with VGI host site prioritization for an equitable deployment of VGI Facilities), to improve the performance of the 2016 VGI Pilot Program, in line with the Guiding Principles and consistent with any applicable Commission orders, tariff rules, regulations, etc. SDG&E will give careful consideration to all programmatic modifications recommended by the PAC at their meetings and implement such changes deemed feasible and necessary. Programmatic changes will be made on an on-going basis, running concurrent with the 2016 VGI Pilot Program, so as not to impact its overall progress.

The VGI PAC will employ a process for examining the data described in Appendix B to determine if a program modification should be implemented to improve the performance of the 2016 VGI Pilot Program.

In line with input from the VGI PAC, SDG&E will make programmatic changes as needed during the course of the 2016 VGI Pilot Program (e.g., VGI Rate - as originally proposed, or with VGI host site prioritization for an equitable deployment of VGI Facilities). Programmatic changes will be made on an on-going basis, running concurrent with the 2016 VGI Pilot Program, so as not to impact its overall progress. The VGI PAC and SDG&E will consider before the conclusion of the VGI Program, and when there is sufficient data, a shareholder reward/risk mechanism that is contingent on delivery of proposed benefits.

To fulfill this role, the VGI Program Advisory Council and its members will have the following responsibilities:

1. Attend all VGI Program Advisory Council meetings, planned to take place at least twice per year over the 2016 VGI Pilot Program period (however, year one will include additional organizational and planning meetings to launch the PAC, as appropriate). Members' individual representatives will be authorized by the sponsoring member

organization to accurately represent the member's position or perspectives. There will be only one representative per member organization. Participation in the PAC will not affect a member's right to speak individually.

2. Examine the 2016 VGI Pilot Program data and findings presented by SDG&E and PAC members in order to make informed recommendations.
3. Timely vet recommendations for 2016 VGI Pilot Program modifications.
4. Actively participate in PAC meetings, and related assignments; contribute resources (e.g., data, expertise, and related) to the PAC where applicable.
5. VGI PAC meeting locations will alternate between San Diego and San Francisco, as determined by the VGI PAC.

Appendix B

Supplemental Data Collection Objectives, Requirements and 2016 VGI Pilot Program Assessment Criteria

Data collection and 2016 VGI Pilot Program assessment criteria used by the VGI Program Advisory Council to determine the need for any programmatic change are identified in the Research Plan (Data Collection and Analysis) described in SDG&E's prepared direct testimony Ex. SDG&E-6 (Martin) p. JCM-35 line 9 – p. 37 line 13, and will be supplemented as described below pursuant to the modifications to SDG&E's VGI Program proposal as a result of D.16-01-____. Data collection identified in this testimony specifically relate to measuring 2016 VGI Pilot Program performance and cost-effectiveness. With the addition of the VGI Rate-to-Host option, there is a need for additional data collection in order to compare and contrast the performance of the two VGI options (i.e., VGI Rate-to-Driver and VGI Rate-to-Host). To accomplish this, the data collection in the Research Plan will include, but will not be limited to:

- Customer (EV drivers and site Hosts) enrollment by site and VGI pricing plan (i.e., VGI Rate-to-Driver and VGI Rate-to-Host)
- Under the VGI Rate-to-Host, load management plans and pricing or fees, including those measures taken that encourage the facilitation of the integration of renewable energy
- Estimates of fuel cost savings through the use of the VGI Facility, under both the VGI Rate-to-Driver and VGI Rate-to-Host pricing plans
- VGI Facility utilization rates
- Deployment of VGI Facilities within or adjacent to a Disadvantaged Community, including EV car-sharing deployment

There is also a need for data collection adequate to provide a description of the 2016 VGI Pilot Program's status and activities, and an assessment of the 2016 VGI Pilot Program's progress consistent with the Guiding Principles in the Interim Progress Report. To accomplish this, additional data collection will include, without limitation, data related to:

- Status of program implementation to date
- Comparing the installations of non-utility EVSE to VGI EVSE
- Surveys of customer and driver decisions to adopt PEVs
- Rate of achievement of supplier diversity and workforce objectives

The VGI PAC will have the flexibility to determine if additional 2016 VGI Pilot Program related measurement and evaluation objectives are of interest and will help to inform Commission policy. The VGI PAC will then articulate the purpose behind these objectives, specify these additional data collection requirements, and determine how they will be funded and resourced.

Appendix C

RFI and RFP Process Clarification

In light of the modifications in Decision 16-01-____ to SDG&E's VGI Program proposal, the following are clarifications of the RFI and RFP processes.

With respect to the selection process and selection criteria for pre-qualifying vendors who will be authorized to provide VGI operating systems and related hardware to control EVSE networks to implement the VGI system, SDG&E prefers generally functional requirements per the objectives of the 2016 VGI Pilot Program, and not "how" these requirements are met. This is intended to foster innovation and enhance the customer's experience and ensure customer choice of vendor, equipment and services. Vendors will be permitted to contract directly with site hosts for services, as necessary, as long as these services do not interfere with the objectives of the 2016 VGI Pilot Program. SDG&E will use a multi-faceted approach to evaluating RFI responses and RFP bid proposals. All responses will be evaluated based on, but not limited to, the following criteria (not listed in order of importance):

- Total cost of ownership over the lifecycle of the EVSE and its operating system, including all indirect and direct costs
- Responsiveness to the RFI and RFP (including response to SDG&E's Terms and Conditions included in the RFP)
- Overall product and service offering including cost, quality, warranty and capability
- Ability to meet safety, reliability, operational and 2016 VGI Pilot Program requirements
- Demonstrated ability to provide innovative functionality to enhance the 2016 VGI Pilot Program experience for the customer while meeting program objectives
- Minimum requirements met for EVSE and operating systems
- 2016 VGI Pilot Program value-added features
- Performance history
- Proposed schedule/time required to complete the required deliverables
- Prior experience in providing EVSE services as described in the RFI/RFP
- Financial strength of the service provider
- Sustainability ("green")
- DBE proposals and plans to achieve stated targets

SDG&E reserves the right to investigate the references and past performance of any bidders/vendors with respect to, among other factors, compliance with specifications, safety, completion or delivery on schedule, and lawful payment of suppliers, sub-suppliers, and workers prior to any contract award. It is anticipated that vendors meeting all the selection criteria will be qualified to participate in providing equipment and services under the 2016 VGI Pilot Program. Except as otherwise set forth in Appendix C, it is anticipated and preferred that multiple vendors will be selected as an outcome of this bidding event however SDG&E reserves the right to accept or reject any or all proposals on the basis of

any reason, and although SDG&E is under no obligation to disclose the reason for rejection, SDG&E will provide feedback to any vendor whose proposal was rejected, if requested.

With respect to the installation and maintenance of the VGI Facilities, SDG&E plans to seek the most effective form of VGI Facility development, installation and maintenance, consistent with utility standards and practices. Construction, installation and maintenance contractors will have Electric Vehicle Infrastructure Training Program (EVITP) certification, and SDG&E will require that all construction, installation and maintenance of VGI Facilities that is not performed by employees of SDG&E shall be performed by contractors signatory to the IBEW who hold a valid C-10 contractor's license, as defined in the governing labor agreement between SDG&E and the IBEW.

Finally, the RFI and RFP process and vendor qualification process will remain open throughout the duration of the 2016 VGI Pilot Program to allow for and encourage participation from qualified third parties over time. SDG&E will encourage discussions during the RFI process that allow vendors to explore with SDG&E the funding of innovative opportunities that may exceed the minimum implementation requirements of the 2016 VGI Pilot Program, and have the potential to enhance and improve the grid-integration outcomes of the 2016 VGI Pilot Program overall.

(End of Attachment 2)

ATTACHMENT 3

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Last Updated on 21-DEC-2015 by: JVG

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