

Application No. A.14-04-014
Exhibit No.: SDG&E-10
Witness: Randy Schimka

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

Application No. 14-04-014
(Filed April 11, 2014)

And Related Matter.

Rulemaking 13-11-007

**PREPARED REBUTTAL TESTIMONY OF
RANDY SCHIMKA
CHAPTER 3
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

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

APRIL 13, 2015



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1 **PREPARED REBUTTAL TESTIMONY OF**

2 **RANDY SCHIMKA**

3 **CHAPTER 3**

4 **I. OVERVIEW AND PURPOSE**

5 My rebuttal testimony responds to certain contentions in the direct testimony submitted by
6 intervening parties in Application (“A”) 14-04-014, *Electric Vehicle-Grid Integration Pilot Program*
7 on San Diego Gas & Electric Company’s (“SDG&E”) proposal in this proceeding. I have previously
8 submitted testimony in this proceeding supporting the April 2014 application and the January 2015
9 supplemental testimony. Specifically, I will respond to the issues raised by the following parties
10 regarding SDG&E’s proposal:

- 11 • Office of Ratepayer Advocates (“ORA”);
- 12 • The Utility Reform Network (“TURN”);
- 13 • Utility Consumers’ Action Network (“UCAN”);
- 14 • ChargePoint;
- 15 • KnGrid;

16 My rebuttal testimony is organized as follows:

- 17 • Section II – SDG&E’s Vehicle-Grid Integration (“VGI”) Pilot Program Proposal will use
18 an open Request for Proposal (“RFP”) process
- 19 • Section III – SDG&E’s VGI pilot size is justified
- 20 • Section IV – SDG&E VGI Operations & Maintenance (“O&M”) expenditures for
21 maintenance are needed
- 22 • Section V – Assessment of the suggestions made by the various parties
- 23 • Section VI – Conclusion

1 **II. SDG&E’S VEHICLE-GRID INTEGRATION PILOT PROGRAM PROPOSAL WILL**
2 **USE AN OPEN RFI/RFP PROCESS**

3 **A. Create Opportunities for Service Providers and Allow Customer Choice for**
4 **EVSE Products and Services**

5 To the greatest extent possible, SDG&E will contract with third parties to build, install,
6 operate, and maintain Electric Vehicle (“EV”) charging stations and associated infrastructure to
7 SDG&E’s VGI specifications.¹ This will benefit third party providers in the plug-in electric vehicle
8 (“PEV”) industry, as SDG&E will be purchasing and contracting for products and services in the
9 marketplace today for the VGI program via an open Request For Information/Request For Proposal
10 (“RFI/RFP”) process.² As a result, SDG&E’s VGI program will create opportunities for third party
11 providers. Ratepayers will also benefit from the RFI/RFP process because this form of competitive
12 bidding will encourage innovation at least cost and improved customer experience.³ This process
13 will also expand SDG&E’s opportunities to meet Diverse Business Enterprise (“DBE”) objectives.⁴

14 In spite of these benefits, ORA believes that SDG&E's ownership of Electric Vehicle Supply
15 Equipment (“EVSE”) infrastructure could limit customer choice of EVSE products and services,⁵
16 while ChargePoint argues that SDG&E's proposal will not create opportunities for other service

¹ SDG&E (Krevat) LK-13:22-24; LK-14:1-4; SDG&E (Schimka) RS-8:3-6. Testimony served in this proceeding will be cited to as follows: Party nickname (witness surname) page(s):lines(s). Examples: TURN (Jones) 6:18-7:5; ORA (Aliaga-Caro) 2-5:11-16. SDG&E’s rounds of testimony will be cited as “SDG&E” [for the direct case served April 11, 2014 and as revised June 3, 2014 (Cynthia Fang) and July 29, 2014 (J.C. Martin)], “SDG&E Supp.” [supplemental served January 14, 2015], otherwise using the forgoing format. Please note that SDG&E witness James P. Avery subsequently adopted the testimony of Lee Krevat submitted with the original application. SDG&E Supp. (Avery) ST-4:16-ST-5:2.

² SDG&E (Schimka) RS-8:2-16.

³ SDG&E (Krevat) LK-14:1-4.

⁴ SDG&E (Schimka) RS-8:13-14.

⁵ ORA (Durvasula) 3-7:6-8.

1 providers⁶. SDG&E could not disagree more. Since SDG&E is not a vendor or manufacturer of
2 EVSE, EVSE network operating systems, or maintenance services for electric vehicle charging
3 systems, SDG&E must solicit third parties to provide those products and services for the VGI
4 program via the RFI/RFP process as described,⁷ thus opening up a market for qualified vendors and
5 contractors. The first step in the process will be for SDG&E to issue an RFI, with the goal of
6 qualifying potential bidders to participate in the RFP process.⁸ Pre-bid conferences will be held with
7 a variety of third parties, such as Electric Vehicle Service Providers (EVSPs), vendors, contractors,
8 and subcontractors to help inform and increase participation. After qualified contractors and vendors
9 have been identified through the RFI process, SDG&E will issue RFPs to select successful bidders.
10 SDG&E is not looking to award contracts to just one RFP winner, as asserted by ChargePoint.⁹ In
11 fact, SDG&E's proposed RFP process will award contracts to multiple bidders.¹⁰ And, while
12 SDG&E will entertain proposals for end-to-end solutions, we also welcome proposals for a portion
13 of the project, such as the network. In other words, our RFI/RFP process will dictate the "what" but
14 not the "how."

15 This process will ensure that not only will site hosts have choices for the type of EVSE
16 equipment to be installed from a list of qualified vendors based on VGI technical and operational
17 specifications,¹¹ but this will create an opportunity for vendors and providers to compete by offering
18 innovative products and services to support the VGI program. Parties that claim the VGI proposal

⁶ ChargePoint (Jones) 8:17 – 9:2.

⁷ SDG&E (Schimka) RS-8:2-16.

⁸ SDG&E (Schimka) RS-8:8-9.

⁹ ChargePoint (Jones) 15:11.

¹⁰ SDG&E (Schimka) RS-8:21-22.

¹¹ SDG&E (Schimka) RS-8:10-11.

1 will limit customer choice or lock out providers misunderstand the RFI/RFP process described in
2 SDG&E's application and testimony.

3 **B. Equipment Specifications**

4 SDG&E plans to develop source selection criteria before the RFP is released to the
5 marketplace.¹² These criteria will describe the minimum features and parameters that will be
6 required for successful bidders to participate in the VGI program with their products and services.

7 ChargePoint argues that imposing a single set of specifications on all EVSE covered by the SDG&E
8 program does not make any sense. They say the RFP process will enable one vendor and technology
9 to be deployed over the course of the pilot program.¹³ SDG&E's plans are to employ specific
10 weighted scoring criteria¹⁴ that will focus on VGI technical and operational specifications.

11 Competing vendor or suppliers are encouraged to respond with proposals that meet or exceed the
12 specifications in the RFP, deliver additional features and value in their proposals, and will be scored
13 accordingly. SDG&E anticipates that multiple bidders will be chosen to participate in the VGI
14 project.¹⁵ The proposed RFP scoring process will rate bids based on a number of factors and hence,
15 the lowest priced bidder, for example, will not automatically win at the exclusion of the other
16 criteria.

17 In addition, ChargePoint states¹⁶ that SDG&E does not have the knowledge, experience and
18 expertise to effectively determine specifications for EVSE and cloud-based communications.

19 SDG&E disagrees with this notion. Not only have SDG&E personnel purchased, driven, and

¹² SDG&E (Schimka) RS-9:3-4.

¹³ ChargePoint (Jones) 12:20-21; 13:9-10.

¹⁴ SDG&E (Schimka) RS-8:10-11.

¹⁵ SDG&E (Schimka) RS-8:21-22.

¹⁶ ChargePoint (Jones) 12:14-19.

1 maintained many PEVs,¹⁷ SDG&E has purchased and installed many types of workplace charging
2 equipment for employee and fleet PEVs since 2011,¹⁸ as well as many different products and
3 services involving technology. In addition, SDG&E has worked closely with multiple EVSPs in the
4 region that have installed charging facilities, and have actively participated in the planning and
5 construction process by providing consulting and support for numerous charging projects.¹⁹ While
6 ChargePoint's experience in designing their own EVSE and cloud-based communications is specific
7 to their systems and their architecture, SDG&E has developed expertise and experience by
8 participating in projects with multiple EVSPs using different hardware and software solutions across
9 our service territory. During the course of those projects, SDG&E has observed first-hand which
10 products and services work well for customers, and which ones do not. For the VGI pilot project,
11 SDG&E's procurement efforts will occur under the Commission's oversight and authority subject to
12 public reporting in order to ensure accountability. For these reasons, SDG&E believes they have the
13 necessary experience, knowledge, and expertise to determine specifications for the equipment and
14 services needed to implement the VGI program as proposed.

15 **III. SDG&E'S VGI PILOT SIZE IS JUSTIFIED**

16 As outlined in Supplemental Testimony,²⁰ SDG&E considers its VGI proposal a pilot
17 because of its experimental purpose and its limited size and scope. To summarize this earlier
18 testimony, the number of VGI facilities considered needs to be large enough to ensure a reasonably
19 strong statistical representation of the SDG&E distribution circuits.²¹ ORA asserts the size and cost
20 of SDG&E's pilot is far larger than the size of other PEV charging infrastructure pilots in the U.S.

¹⁷ SDG&E (Schimka) RS-5:8-9.

¹⁸ SDG&E (Schimka) RS-5:13-14.

¹⁹ SDG&E (Schimka) RS-6:13-14.

²⁰ SDG&E Supp. (Schimka and Martin) ST-45:25-26.

²¹ SDG&E Supp. (Schimka and Martin) ST-46:3-6.

1 and past CPUC approved pilots.²² SDG&E contends that the size of the VGI pilot with its intended
2 goals has little to do with the other pilots mentioned. The VGI rate design must be tested across a
3 wide variety of circuits (due to their diversity in circuit parameters) for meaningful results, as
4 discussed in section III of SDG&E’s Supplemental Testimony.²³

5 ORA also suggests that SDG&E should implement a smaller pilot program consisting of 100
6 sites with 500 charging stations open to third party ownership. They claim this will provide the
7 relevant data to enable the Commission to determine the appropriate level of EVSE infrastructure
8 needed to bring 1.5 million PEVs to California by 2025.²⁴ SDG&E disagrees, and as outlined in
9 Appendix A of Supplemental Testimony²⁵, SDG&E shows that the small sample size of charging
10 locations and stations as proposed by ORA would result in unacceptable sampling error, thus the
11 desired results from the VGI program would not be obtained (“to see whether hourly variant pricing
12 influences charging decisions, with the aid of enabling technology”).²⁶ Hence, with a reduced
13 sample size of charging locations and stations, the data and findings may have less value to help
14 inform Commission policy.

15 In addition, reducing the number of proposed charging stations associated with the VGI
16 project by 90% would significantly impede progress toward the 2020 goal in Governor Brown’s
17 2012 Zero-Emissions Vehicle (“ZEV”) Action Plan to support 1 million ZEVs in the State with grid
18 integrated EV charging.²⁷

²² ORA (Aliaga-Caro) 2-11:1 – 2-14:4.

²³ SDG&E Supp. (Schimka and Martin) ST-46:5-12.

²⁴ ORA (Aliaga-Caro) 2-17:7-10.

²⁵ SDG&E Supp., Appendix A-5.

²⁶ SDG&E (Krevat) LK-11:17-19.

²⁷ 2013 ZEV Action Plan p. 2, paragraph 3
[http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_\(02-13\).pdf](http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_(02-13).pdf).

1 In their testimony, UCAN says the current number of EV owners at each location should be
2 the most important criteria in determining whether to install a VGI facility.²⁸ In addition, TURN
3 advocates using a formal process to select sites, and says SDG&E has not identified a reasonable
4 methodology for determining likely or potential EV demand at host sites.²⁹ SDG&E agrees with
5 UCAN that the current number of EV owners is important, but there are other important criteria to
6 consider in the screening process. For example, if the cost for installation at a hypothetical site is
7 well in excess of the budgeted cost because of distant power supply issues, but it has a large number
8 of current EV owners that would make it an attractive VGI site, the site will still be too expensive to
9 build with VGI funding and it should be prioritized accordingly.³⁰

10 As described, SDG&E has developed a list of 10 criteria that will be used to evaluate and
11 prioritize an interested site host for VGI installation. SDG&E does not believe it is necessary to
12 prioritize one criterion over another, as they are all important and must be included in the evaluation
13 process. SDG&E agrees with TURN that a reasonable methodology and process must be used to
14 select sites, and such a process will be assembled using the criteria presented.³¹

15 **IV. SDG&E VGI O&M EXPENDITURES FOR MAINTENANCE ARE NEEDED**

16 SDG&E believes ongoing maintenance is important for EVSE and associated equipment in
17 the VGI pilot project that will be impacted by weather conditions, vandalism, and wear and tear from
18 normal use. As outlined in testimony,³² SDG&E will enter into a Service Level Agreement (“SLA”)
19 contract with one or more third parties to operate and maintain the VGI systems to SDG&E’s
20 specifications. In that testimony, examples of these operational requirements and responsibilities are

²⁸ UCAN (Croyle) p. 21, paragraph E.

²⁹ TURN (Borden) 25:28-29; 26:1-2.

³⁰ SDG&E (Schimka) RS-7:5-18.

³¹ SDG&E (Schimka) RS-7:5-18.

³² SDG&E (Schimka) RS-19:2-5.

1 described. Additional terms and conditions will pertain to monitoring equipment for failure, repair
2 and replacement of failed or damaged equipment, and related maintenance criteria. Since the VGI
3 facility assets are proposed to be funded by all ratepayers, SDG&E is responsible for ensuring that
4 the entire set of assets from end-to-end are kept in good working order and are used and useful for
5 the life of these assets, to the benefit of all ratepayers. ChargePoint's Mr. Jones, however, makes the
6 claim that utility-funded O&M is not necessary to maintain the charging stations.³³ Mr. Jones goes
7 on to state that ChargePoint provides O&M through its partners to all of their customers. They
8 purportedly offer a full range of proactive and remedial services through a combination of direct
9 employees and national partners, providing 24/7/365 coverage.

10 The difference between SDG&E's VGI proposal and ChargePoint's business practice is that
11 ChargePoint attempts to sell their customers these maintenance services, which may or may not end
12 up being purchased. That could leave some customers without maintenance service who may not
13 think it is necessary, or the customer may not have the option of maintenance service if the vendor
14 should cease operations in the future. Regardless of the cause for no maintenance being performed,
15 this could lead to equipment that is no longer used and useful; thus the net benefits for SDG&E's
16 VGI services would not be achieved. An O&M obligation under the Commission's oversight and
17 authority ensures assets continue to be used and useful and that the benefits continue to flow back to
18 ratepayers. As part of the RFP process, SDG&E will encourage third parties to competitively bid for
19 maintenance service in the VGI program.³⁴ VGI equipment maintenance costs are included in the
20 pilot program proposal to protect all ratepayers by ensuring that the facilities remain used and useful
21 and net benefits to all ratepayers are realized.³⁵

³³ ChargePoint (Jones) 14:17-19.

³⁴ SDG&E (Schimka) RS-8:3-5.

³⁵ SDG&E (Schimka) RS-15:15-23.

1 TURN concludes that SDG&E’s request for replacement charging equipment is consistent
2 with the intent for initial-stage investment with an eye toward long-term, wide-ranging deployment,
3 rather than a pilot.³⁶ Given the purpose of including these costs in SDG&E’s proposal, as described
4 above, this is not true. SDG&E included replacement equipment costs in the VGI pilot project
5 estimate as a proxy for actual maintenance costs that will be incurred over the life of this investment,
6 to ensure the facilities remain used and useful, and to ensure that net benefits to all ratepayers are
7 realized.³⁷ Only actual costs will be recorded in the balancing account.³⁸

8 **V. ASSESSMENT OF THE SUGGESTIONS MADE BY VARIOUS PARTIES**

9 SDG&E has applied the following criteria embodied in the benefits of SDG&E’s proposal to
10 critically assess the value of the suggestions and opinions made by the various parties:

- 11 • Demonstrates net benefits to all ratepayers
- 12 • Protects EV drivers and all ratepayers (ensure assets continue to be used and useful)
- 13 • Provides equitable deployment of assets and services
- 14 • Provides customer choice to EV drivers through pricing
- 15 • Supports Governor’s 2020 grid-integrated infrastructure and 2025 vehicle deployment
- 16 goals, and state’s clean air and climate change objectives
- 17 • Collects data and findings to help inform CPUC policy

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³⁶ TURN (Jones) 2:14-16.

³⁷ SDG&E (Schimka) RS-9:22 – RS-10:9.

³⁸ SDG&E (Jasso) NGJ-1:12-14.

1 **The following discussion is based on these criteria:**

2 **A. Reducing VGI Size and Volume of Installations**

3 TURN's proposal³⁹ includes total capital and O&M spending of \$10.809 million and \$2.611
4 million (15% of proposed cost), which includes funding during the implementation phase for all
5 supporting infrastructure up to, and including, the "make ready" stub portion of the installation, and
6 withholds any O&M funding beyond 2020. As previously testified, SDG&E disagrees with
7 reducing the VGI pilot project size because a smaller project does not support the Governor's grid-
8 integrated charging infrastructure goals, and a reduced set of VGI sites/charging stations on a
9 smaller number of distribution circuits will not collect the necessary data and findings to help inform
10 Commission policy.

11 **B. Reducing VGI Program Funding**

12 The primary reduction TURN makes to the VGI proposal is elimination of funding for all
13 charging station equipment and much of associated labor, which SDG&E includes in line item "EV
14 Supply Equipment and Installation."⁴⁰ SDG&E has experience participating in many charging
15 station projects in the San Diego region,⁴¹ and has an understanding of host site cost of installation
16 sensitivity. An implicit objective of SDG&E's VGI pilot is to remove cost as a barrier, so shifting
17 costs back to the site hosts will undermine that objective.

18 In an attempt to trim VGI program costs, TURN's suggestion of eliminating charging station
19 equipment and labor from pilot funding will simply make it more difficult to find site hosts who
20 would be willing to pay for the charging stations and installation – in other words, based on

³⁹ TURN (Jones) 1:14-17; TURN (Borden) 4:3-5.

⁴⁰ TURN (Jones) 4:8-10.

⁴¹ SDG&E (Schimka) RS-6:7-12.

1 SDG&E’s experience with host site customers, the greater the cost burden on the host, the greater
2 the likelihood that the host will not install a VGI charging facility.

3 **C. “Make-Ready” Charging Infrastructure at Existing Transformers**

4 TURN recommends⁴² that SDG&E install what it calls “make-ready” charging infrastructure
5 during the pilot at sites not requiring transformers. SDG&E would like to point out that there is no
6 existing accepted understanding of the term “make ready”, nor has SDG&E used this term in its
7 proposal. It is unclear in TURN’s context if “make-ready” infrastructure stops at the meter or
8 includes branch circuits and the required conduit and wire all the way up to the charging station
9 connections.

10 Of course, eliminating funding for new transformers at VGI project sites would cut VGI
11 project costs. However, one of the benefits of providing new transformers for VGI sites that require
12 them is that it also provides the host with flexibility as to where the charging stations can be
13 installed, as well as the capability to power additional VGI stations. This is a great benefit in scale
14 economy per site that SDG&E believes offsets the modest cost for the transformers.

15 **D. Behind the Meter Infrastructure**

16 UCAN states⁴³ that billing system costs could mostly be avoided if SDG&E only provided
17 the behind the meter infrastructure and not the charging station services and billing for those
18 services. Integral to the VGI Program is the innovative hourly, day-ahead rate, and the ability to
19 study the degree to which EV customers respond to price signals tied to grid conditions.⁴⁴ As
20 described in testimony⁴⁵, the customer’s bill plays a key role in reinforcing the charging decisions

⁴² TURN (Jones) 3:3-4.

⁴³ UCAN (Croyle) 20, paragraph 1.

⁴⁴ SDG&E Supp. (Avery) ST-1:11-20.

⁴⁵ SDG&E (Schimka) RS-20:1-19.

1 made in response to the daily price signal. Since SDG&E's customers are already familiar with
2 SDG&E's billing and back office support, this is the most effective way to give customers critical
3 feedback within this integral part of the SDG&E's proposal. Funding a completely separate billing
4 function by a third party wouldn't necessarily provide these same benefits. UCAN's proposal
5 appears to be limited to SDG&E existing business, and thus the benefits of managed charging via the
6 innovative hourly VGI rate would be lost if the proposed SDG&E billing costs are not included in
7 the VGI project.

8 **E. Number of Charging Stations per Site Too High**

9 UCAN states⁴⁶ that some VGI locations may only justify 3-5 units per station while others
10 could be as high as 10. UCAN asserts that it seems unreasonable to assume that all locations of all
11 sizes can support a 10-unit charging station. SDG&E acknowledges that not every site will request
12 or justify the installation of 10 charging stations, but some sites will want to install more than 10
13 stations. SDG&E cautions that installing as few as 3-5 stations per site as mentioned by UCAN on a
14 consistent basis will raise pilot project average costs per site due to fixed costs and will not take
15 advantage of the natural scale economies of the charging station infrastructure. Therefore,
16 SDG&E's cost estimates were calculated with an expectation of cost averaging due to higher and
17 lower charging station counts at the various VGI sites.

18 Another benefit of installing more rather than less charging stations per site is that it helps to
19 minimize drivers having to swap out their cars when one is done charging and another driver is
20 waiting to charge. At workplaces in particular, SDG&E has observed⁴⁷ that sites with a small
21 number of charging stations and more cars trying to use them usually have coordination issues with

⁴⁶ UCAN (Croyle) 22, paragraph 2.

⁴⁷ SDG&E (Schimka) RS-6:7-15.

1 drivers having to swap cars to access a charging station. This results in driver and employer
2 inconvenience, as well as a loss of productive employee time.

3 For all the reasons mentioned above, SDG&E believes that using a model of 10 charging
4 stations per site is a good engineering choice for the purpose of estimating overall costs, while
5 acknowledging that some sites will have more charging stations installed and some sites will have
6 less.

7 **F. VGI Standards**

8 As part of the RFI/RFP competitive bidding process, SDG&E will develop VGI operational
9 and technical specifications.⁴⁸ These specifications will provide guidance for third parties
10 participating in the bidding process. KnGrid's testimony indicates they see no value in beginning an
11 effort to start from scratch in developing a new interoperability standard for VGI when a global
12 standard already exists.⁴⁹ SDG&E has no intention of "starting from scratch" to develop new
13 interoperability standards, and will evaluate existing proposals from the various parties during the
14 RFP process. While KnGrid specifically advocates the use of ISO/IEC 15118 and SEP 2.0
15 standards,⁵⁰ SDG&E would urge the CPUC to avoid prescribing specific interoperability standards
16 as part of the VGI project. During the RFI/RFP process, the market will bring their best and most
17 innovative products to the table and SDG&E would like the opportunity to evaluate the vendor
18 proposals on their merits. SDG&E believes that waiting for appropriate ISO/IEC 15118/SEP 2.0
19 end-to-end compliant VGI solutions to become commercially available could potentially slow down
20 VGI program implementation.

21 **VI. CONCLUSION**

22 This concludes my prepared rebuttal testimony.

⁴⁸ SDG&E (Schimka) RS-8:10-11.

⁴⁹ KnGrid (Davis) 6:6-8.

⁵⁰ KnGrid (Davis) 6:4-5.