Application No. A.14-04-014
Exhibit No.: SDG&E-11
Witness: Cynthia Fang

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

CYNTHIA FANG

CHAPTER 4

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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PREPARED REBUTTAL TESTIMONY OF

CYNTHIA FANG

(CHAPTER 4)

I. OVERVIEW AND PURPOSE

The purpose of my rebuttal testimony is to respond to the prepared direct testimony submitted by intervening parties in San Diego Gas & Electric Company's ("SDG&E's") Vehicle Grid Integration ("VGI") Pilot Application ("A.") 14-04-014. Specifically, I will respond to the portion of direct testimony related to the proposed VGI pilot rate, along with cost recovery and allocation. I have previously submitted testimony in this proceeding supporting the April 2014 application.

I will address the recommendations and concerns presented by the following parties:

- Office of Ratepayer Advocates ("ORA");
- The Utility Reform Network ("TURN");
- Utility Consumers' Action Network ("UCAN");
- ChargePoint;
- California Energy Storage Alliance ("CESA");
- Federal Executive Agencies ("FEA");
- KnGrid;
- The Green Power Institute ("GPI"); and
- Environmental Defense Fund ("EDF").

The focus of SDG&E's proposed VGI pilot rate is: (1) to examine alternative rate design; (2) to encourage reduction of both coincident and non-coincident peak demand; (3) to provide a rate design that encourages cost-effective grid-integrated charging solutions for electric vehicle ("EV") customers; (4) to avoid cross-subsidies; (5) to base rates on cost causation; and (6) to encourage economically efficient decision making.[1] Some of the parties include in their testimony a discussion of SDG&E's proposed VGI pilot rate design, along with proposals for a different rate design. A number of parties request that SDG&E's proposed rate design be made available to any provider or customer to select as their rate schedule for EV charging. A few parties make recommendations regarding the recovery and allocation of the costs associated with implementing the VGI pilot.

My rebuttal testimony is organized as follows:

- Section II – Response to Discussion of Rate Design
- Section III – Response to Concerns about Availability
- Section IV – Response to Discussion of Allocation and Cost Recovery

II. RESPONSE TO DISCUSSION OF RATE DESIGN

Some parties such as FEA, EDF, and KnGrid support the dynamic nature of SDG&E's VGI pilot rate and the potential for hourly dynamic pricing supporting the movement towards pricing that more accurately reflects grid conditions.[2] GPI recommends that SDG&E add the following as a stated objective of the VGI pilot rate: "increase ability to absorb excess solar generation during times of peak production."[3] SDG&E supports this recommendation.

Some parties have recommended changes to SDG&E's VGI pilot rate. Generally, these suggestions take the form of either (1) alternative rate options for participants or (2) comparisons between the proposed hourly structure and the existing time-of-use ("TOU") rate schedules. These rate design issues are addressed below.

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[1] SDG&E (Fang) CF–5:2-6. 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] FEA (Brubaker) 3:17-23; EDF (Fine) 18-19; KnGrid (Davis) 4.

[3] GPI (Morris) 12:21-22.

A. Alternative Rate Options

ORA's testimony presents an alternate rate proposal which includes adjustments to SDG&E's proposed VGI base rate, a second "CPP-lite" rate option, and consideration of a simplified rate design in a late phase of this proceeding, to assist with potential third-party ownership complications.[4] TURN recommends that an additional optional curtailment tariff be made available with a limit on the number of hours and days that curtailment is available within a given year.[5]

While SDG&E is not opposed to providing its customers with options, it is important to evaluate the potential impact additional options may have on administrative, education and outreach costs, as well as the communication complexity associated with such options. That is, consideration of additional options should weigh their added value against the incremental costs associated with such options. In addition, the potential impacts of curtailment of charging stations, due to uncertainty related to the availability of charging services that curtailment could create, should be taken into consideration. For instance, the potential uncertainty of whether charging services would be available when needed could become a deterrent for customers looking to increase zero emission miles.

1. TOU and Other Recommendations

TURN recommends that the owner at VGI sites be given the choice between the VGI and a TOU rate.[6] UCAN suggests that, in order to test the effectiveness of the VGI pilot rate, SDG&E should be required to compare results of customers on the VGI rate to those of customers on the existing Schedules EV-TOU[7] and EV-TOU-2[8] rates for residential customers.[9]

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[4] ORA (Willis) 5-1 – 5-2.

[5] TURN (Hawiger) 1:30-2:2.

[6] *Id.,* 1:28-30.

[7] SDG&E's separately metered option for residential EV customers. (http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-SCHEDS_EV-TOU.pdf)

Given their focus on TOU, it seems that TURN and UCAN fail to recognize the potential benefits the proposed VGI rate provides to customers, as well as to the system. Under SDG&E's standard TOU structure, SDG&E's on-peak period is a 7 hour period during the summer that occurs 5 days a week for 6 months out of the year. During the winter, the on-peak period is a 3 hour period. This results in a total of approximately 1,300 high cost hours out of 8,760 hours in a year, or approximately 15%.[10] By moving from a TOU rate structure to an hourly dynamic rate structure, the proposed VGI rate allows SDG&E to focus on a small number of truly high cost hours, the 150 system peak hours and the 200 circuit peak hours, no more than a maximum of 350 hours per year, which is about 4% of the hours within a year. Moreover, the availability of a surplus energy credit on a day-of basis provides customers with additional low cost opportunities that also provide system benefits during times of surplus energy.

III. RESPONSE TO CONCERNS ABOUT AVAILABILITY

A number of parties have expressed a desire to make the proposed VGI pilot rate available to third party electric vehicle service providers ("EVSPs") and/or site owners. UCAN argues that if the grid integration benefits are to be expanded to non-utility providers, a similar rate should be extended to them as well.[11] ChargePoint believes that while the VGI pilot rate is promising and innovative in concept, it need not be tied to access requirements for the charging stations.[12] CESA[13]

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8 SDG&E's option for households with EVs. (http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-SCHEDS_EV-TOU-2.pdf)

9 UCAN (Croyle) 41.

10 1,300 hours = 7 hours x 5 days/week x ½(52 weeks) + 3 hours x 5 days/week x ½(52 weeks). This estimate excludes holidays

11 UCAN (Croyle) 46.

12 ChargePoint (Quinn) 16:7-10.

13 CESA (Lin) 14:7-8.

and ORA[14] make similar recommendations, with ORA suggesting that a simplified version of the VGI pilot rate be offered to third parties if the California Public Utilities Commission ("Commission") determines that it is too complicated.

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

ChargePoint raises the notion that only individuals who are also SDG&E residential customers will be able to utilize the charging stations that are installed as part of the proposed VGI pilot. ChargePoint recommends that the charging stations and the VGI rate be made available to anyone who would want to use them while visiting a participating multi-unit dwelling or workplace. ChargePoint argues that by limiting VGI pilot rate availability to SDG&E residential customers only, SDG&E is undermining its own goals.[15] As a regulated utility, SDG&E has the authority to provide service to its customers. SDG&E understands that there may be potential benefits to offering the VGI rate to other customer segments and populations; however, the question of the ability of SDG&E to extend service to non-customers is a much larger issue that is beyond the scope of this proceeding.

IV. RESPONSE TO DISCUSSION OF ALLOCATION AND COST RECOVERY

SDG&E proposes that since the grid, and therefore all customers, will benefit from its proposed pilot and that the investments enabled by this pilot will promote clearly articulated energy and environmental policy goals, costs should be recovered from all customers, not just direct

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[14] ORA (Willis) 5-11:20-26.

[15] ChargePoint (Quinn) 14:25-15:1.

participants.[16] Some parties have put forth arguments stating that costs should be recovered only from VGI pilot participants, should be recovered using different allocations than those proposed by SDG&E, or that SDG&E should not be requesting authority to recover these costs so far into the future. Issues of cost recovery and allocation are addressed below.

A. Cost Recovery

FEA notes that due to the experimental nature of a pilot, it is more appropriate to collect charging infrastructure costs from those customers who are using the charging stations, rather than from all ratepayers.[17] At a minimum, FEA suggests that the 2016 revenue requirement of $3.8 million be included into the VGI base rate, and thereby collected only from direct participants.[18] Additionally, TURN asserts that in order to be considered "cost-based," the VGI rate should be increased to account for the cost of the facilities and increased RPS compliance obligations due to EV load.[19] UCAN argues that non-participating customers should not be expected to subsidize customers that benefit from this program.[20]

Currently, electric utilities are faced with many challenges in achieving the State's clean energy goals while trying to maximize efficiency of the utility grid. The VGI pilot rate design proposal introduces a new rate design structure that has the potential to assist the utilities in achieving these goals. In light of the grid-related benefits of the VGI pilot, which benefit all customers, SDG&E believes it is appropriate to recover costs from all SDG&E customers.

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[16] SDG&E (Martin) JCM-3:20-4:1; SDG&E (Fang) CF-20: 3-5.

[17] FEA (Brubaker) 5:21-6:3.

[18] *Id.*, 7:18-20.

[19] TURN (Hawiger) 14:23-15:16.

[20] UCAN (Croyle) 49.

B. Cost Allocation

ORA recommends that VGI costs be recovered through distribution rates, but with an allocation based on total sales, should it be decided that costs are to be recovered from all customers.[21] This, according to ORA, would provide a compromise between the distribution system costs responsibility and the potential generation and environmental benefits.[22] The current allocation of distribution costs, however, is the result of a Commission approved settlement in SDG&E's 2012 General Rate Case ("GRC") Phase 2 proceeding.[23] Given that these VGI pilot costs do not materially differ from current distribution costs, SDG&E does not believe there is sufficient justification for reallocating VGI pilot costs using a methodology that differs from similar distribution costs.

C. Recovery through GRC

TURN states that it is unreasonable for SDG&E to ask for revenue collection authorization that extends 22 years into the future, especially given that this VGI proposal is a pilot.[24] TURN argues that authorizations such as the one SDG&E is seeking in this proceeding should be requested within a more appropriate timeframe, such as through a GRC, to allow the Commission to evaluate program viability and reasonableness of recovery.[25] In response, SDG&E provides the following clarification of its proposal. As noted in the direct testimony of Norma Jasso,[26] during the installation period (2015-2019), any over/under-collection will be carried forward to the following

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[21] ORA (Willis) 5-11:1-3.

[22] *Id.*, p. 5-11:11-18.

[23] D. 14-01-002.

[24] TURN (Jones) 6: 4-6.

[25] *Id.*, p. 6:10-12.

[26] SDG&E (Jasso) NGJ-1:19-21.

year until the end of the period currently projected to be on or about 2019. Following the installation period, any authority to recover ongoing costs[27] will be addressed in the next GRC.

D. Monitoring/Tracking

ORA recommends that SDG&E monitor the revenue collection associated with the VGI commodity and delivery surcharges relative to the deferred demand costs.[28] SDG&E does not oppose ORA's recommendation.

V. CONCLUSION

This concludes my prepared rebuttal testimony.

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[27] SDG&E (Atun) Appendix B-1, B-2.

[28] ORA (Willis) 5-1:18 – 5-2:11.