

TURN DATA REQUEST
TURN-SDG&E-DR-09
SDG&E VEHICLE GRID INTEGRATION PROJECT
A.14-04-014
SDG&E RESPONSE
DATE RECEIVED: JUNE 10, 2015
DATE RESPONDED: JUNE 24, 2015

The following questions refer to Attachment A, "Settlement Agreement Regarding San Diego Gas & Electric Company's Vehicle-Grid Integration Pilot Program Application, A.14-04-014" (referred to as "the Agreement" in this data request) of the "Joint Motion for Adoption of Settlement Agreement." The motion with attached agreement was emailed to parties on 6/3/15. "VGI Pilot Application" in this data request refers to SDG&E's original application and testimony filed April 11, 2014.

1. How do provisions in the Agreement affect SDG&E's cost effectiveness analysis, presented in Chapter 6 (witness Martin) of SDG&E's VGI Pilot Application? Please provide all workpapers and calculations in Excel format with working formulas, emphasizing key changes in assumptions, calculations, and results due to provisions of the agreement.

SDG&E Response:

The cost effectiveness analysis in Ex. SDG&E 6 testimony of JC Martin captures the range of possible outcomes under the Agreement and thus no additional modeling analysis is needed. The analysis in SDG&E-6 contains two scenarios – EV charging with the VGI rate, and EV charging based on a flat rate. The Agreement adds an option for the site host to choose a VGI Rate-to-Host option (to the originally proposed option of VGI Rate-to-EV Driver). If the site host chooses the Rate-to-Host option, it must include a load management plan, consistent with the Agreement's Guiding Principle that "must be structured to provide net benefits to all ratepayers". By the Agreement introducing this choice to site hosts, it introduces the chance to explore the (1) the extent to which site hosts would prefer to get the VGI rate directly, and (2) how site hosts receiving the rate can creatively manage the load. The Agreement's option allows the pilot to explore other approaches to encourage off-peak charging and charging at times of day when the price per hour is low. Even if a large portion of site hosts choose the VGI Rate-to-Host option, it is still expected that the modeled EV charging behavior described in the testimony of JC Martin would yield similar effects as those he modeled under the VGI Rate (which is the Agreement's Rate to Driver option). The data yielded by the pilot should reveal customer preferences and the effectiveness of the VGI rate to affect driver charging behavior under both options in the Agreement.

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2. Do any of the provisions in the Agreement affect program costs, discussed in Chapter 4 (witness Atun) of the VGI Pilot Application? Please identify provisions and corresponding cost impacts, and provide all workpapers and calculations related to this response.

SDG&E Response:

The VGI Program will not exceed the proposed \$103 million program cap on spending authority requested in the application. SDG&E will not build over the 550 charging stations if the spending cap is not reached with that rollout level. Schimka, T. 534:5-23 (April 29, 2015). VGI site hosts selecting the VGI Rate-to-Host option, as noted in Section III, modification paragraph B, will submit load management plans which will describe the expected load management effects. It is assumed that some of these plans will not have a cost impact and some may. As noted in modification paragraph F and in the last paragraph of Appendix C, if it is determined that such plans will yield results consistent with the objectives of the VGI Pilot Program, and in these cases these plans require additional costs to achieve these objectives, the VGI Pilot Program will cover these costs. This will shed light on alternative ways to achieve grid-integrated charging impacts by providing the VGI price signal to the host, who will in turn take affirmative action to respond to this price signal.

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3. Page 3 of the Agreement, number 9, states that SDG&E's program "[m]ust provide data to help inform State policy." Please describe how this will be accomplished, and what data will be made public and in what manner (e.g. a website) and what data will be private.

SDG&E Response:

This Guiding Principle restates one of the objectives of SDG&E's original proposal, as stated in Ex. 1 (Avery) p. LK-12 lines 5 – 14. The inclusion of the provisions and modifications described in the Agreement broaden the range of areas the VGI Pilot Program will study, and as such, will provide a richer set of data and findings to help inform state policy. For example, as noted in Appendix B of the settlement, providing the VGI Rate-to-Host option provides an opportunity to measure its effectiveness against the originally proposed VGI Rate-to-Driver option. Data and findings will be made available as described in Ex. SDG&E-6 (Martin) p. JCM-35 line 9 – p. 37 line 13, and as determined by the VGI Program Advisory Council, described in Appendix A of the Agreement. In line with customer privacy policy, if raw data are made available, these data will be provided in aggregate in a manner that preserves the anonymity of individual customers (i.e., EV drivers and sites hosts).

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4. Page 4 of the Agreement, part “A,” describes two billing options for MuD or workplace site hosts – “VGI Rate-to-EV driver” and “VGI Rate-to-Host.” Regarding these billing options:
- a. What is the number or percentage of sites that will be targeted for each billing option?
 - b. What is the minimum number or percentage of sites for each billing option?
 - c. Will a statistically representative sample of distribution circuits in SDG&E’s territory be targeted for each billing option? Please provide an explanation for this response.
 - d. What is the rationale behind this alteration to SDG&E’s VGI Pilot Application?
 - e. What is the expected effect of this provision on program participation, charger utilization, and EV adoption? Please provide any studies, analyses, and workpapers related to this response.

SDG&E Response:

- a. There are no quotas set for each billing option. To increase the value of the Pilot for informing state policy, it is desirable to have a balanced number of VGI Facilities under both options, within both MuDs and workplace settings. As noted Appendix A of the settlement, the VGI Program Advisory Council reserves the right to make program modification recommendations during the course of the program implementation to ensure such a balance. However, since program participation is driven by host site (customer) demand, with a large enough volume of VGI Facilities, there should be reasonable representation and variety of sites (i.e., of VGI billing options by MuD and workplaces) over the four year program implementation.
- b. As noted in 4.a. there are no quotas per option.
- c. Statistical representation of circuits was discussed thoroughly in Ex. SDG&E-7 (chapter 3 Schimka & Martin) p. ST-46 lines 1 – 13 and Appendix A. With a large enough volume of VGI Facilities, as proposed by SDG&E, there should be reasonable statistical representation of circuits.
- d. As explained in question and answer 3 (above). Settlements by their nature represent compromise and a balancing of various interests; several of the settling parties wanted to expand the range of choice available to site hosts over that offered in SDG&E’s original proposal.
- e. In terms of program participation, the provisions and modifications offer increased options for site hosts, and as such, should increase choice and program participation. No studies were conducted to determine this – that is the objective of a pilot – to explore the impact of a variety of ways to achieve the benefits of grid-integrated charging.

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5. Regarding the “VGI Rate-to-Host” rate option:
- a. Are grid benefits expected from this billing option?
 - b. If the answer to “a” is yes, please explain the nature of the grid management benefits.
 - c. Do the grid benefits depend on the rate charged by the host to the EV owner? Please explain.

SDG&E Response:

- a. Yes.
- b. The settlement provides that the VGI price signal will be sent to the site host under the “VGI Rate-to-Host” option, providing an economic incentive for site hosts to manage load, and that site hosts will submit a load management plan as a condition of participation. A load management action or measure, when executed generally leads to charging patterns consistent with those modeled with a VGI Rate-to-EV Driver option, as originally proposed. That is, avoiding charging during hours of the day with high pricing, and preferring to charge during times of low pricing. This pricing as detailed in Ex. SDG&E-3 (Fang), reflect grid and circuit conditions, as well as the fluctuating energy prices throughout the day. This allows the site host to explore a variety of load management measures that respond to the price signal for the entire VGI Facility. Since this is a separate service, with separate metering, this not only allows SDG&E to bill the site host for the VGI Facility use, but to also study the diurnal load patterns of the entire VGI Facility in response to the price signal to the site host. As described in answers to question 6 below, the site host can consider ways to respond to the price signal with a load management measure or action, basically yielding data comparable to the VGI Rate-to-EV Driver option.
- c. Under the VGI Rate-to-Host, the host is not obligated to pass through the VGI Rate as is to the EV driver. Instead, the host may pursue alternative approaches (described in answers to question 6 below), including technology or pricing solutions. As long as a load management action result is executed by the host, then grid benefits can be accounted for.

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6. Page 4 of the Agreement, part “B,” describes a provision of the “VGI Rate-to-Host” billing option, whereby the site host or vendor “will be required to submit to SDG&E the load management tactics it will implement at its facility.” Regarding this “load management plan” (referred to here as “the plan”):
- a. What is the purpose of this provision? What is the plan meant to accomplish?
 - b. Please describe the range of “load management tactics” that SDG&E expects will be submitted.
 - c. Please provide any examples of “load management tactics” envisioned by SDG&E.
 - d. What are the minimum criteria that must be met by the plan that will be accepted by SDG&E? Please delineate these criteria specifically.

SDG&E Response:

- a. The purpose is described above in answers to question 3. What is accomplished is described in the answer to 5 above.
- b. The range of load management tactics expected is best answered and demonstrated by a combination of site hosts and EV service providers who qualify to participate in the program. Any examples offered here by SDG&E are necessarily speculative, and cannot anticipate the range of creative approaches site hosts and EV service providers might employ. Those envisioned by SDG&E could include, but are certainly not limited to, the following examples (subject to confirmation by service providers and site hosts):
 - i. Requesting the service provider to power down the rate of charge (or curtail charging) for each EV during hours of the day with high pricing, and correspondingly, increasing the rate of charge during hours of the day with low pricing (as described in the answer to 5.b. above).
 - ii. Sending an email alert to EV drivers who use a given VGI Facility to voluntarily avoid or limit charging during hours of the day with high pricing, and correspondingly, increasing the rate of charge during hours of the day with low pricing.
 - iii. Integrating stationary energy storage system interconnected with the VGI Facility to provide the stored energy during hours of the day with high pricing, and correspondingly, increasing the rate of charge during hours of the day with low pricing.
- c. Answered in “b.” above.
- d. The load management plan must be consistent with the Agreement’s Guiding Principles.

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7. Please describe how part “C” on page 4 of the Agreement differs from SDG&E’s VGI Pilot Application.

SDG&E Response:

It does not differ – sites hosts were allowed to choose both EVSE and related services from pre-qualified vendors in the original proposal. “C” was added to clarify that this also applied to site hosts selecting the VGI Rate-to-Host option.

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8. Pages 4-5 of the Agreement, part “D”, describe a “participation payment” (referred to here as “the payment”).
- a. What is the rationale for this provision?
 - b. How much (in dollars and percentage terms, if applicable) will this payment be? If an exact dollar figure is not available, please provide a range.
 - c. Will the payment be uniform or vary depending on type of site (workplace or MuD)?
 - d. Will the fee be used to lower program costs? Please describe if proceeds from the fee will be returned to ratepayers and how this will be accomplished.
 - e. How will the Program Advisory Council advise the amount of the payment? Will this council have authority to overrule any decision made by SDG&E with regard to the payment? Please include in this response a detailed explanation of how the council will advise SDG&E on the level of fee and whether they will be given any kind of authority to influence SDG&E’s decision.

SDG&E Response:

- a. A number of parties wanted to explore this concept. These parties had a range of alternatives to consider.
- b. Unknown – a recommendation will be developed in consultation with the Program Advisory Council (PAC).
- c. Unknown – a recommendation will be developed in consultation with the PAC.
- d. SDG&E shall file for approval of the proposed participation payment by way of a Tier 2 advice letter, subject to protest by any party, after consulting with the PAC (as described in the settlement). It is anticipated that proceeds from the payment will be credited to the program balancing account.
- e. 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. SDG&E anticipates that this will be one of the first topics considered by the PAC. The roles and responsibilities of the PAC are described in Appendix A of the settlement.

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9. Page 5, part “F” of the Agreement, states “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 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.”
- a. What “additional or complementary services” are envisioned in this statement?
 - b. Is there a maximum dollar or percentage of cost amount that can be charged by third parties for “additional or complementary services?”
 - c. Will a portion of revenue collected by parties related to “additional or complementary services” be returned to ratepayers? If yes, what portion?
 - d. How will an additional service be deemed to “inhibit” SDG&E’s VGI price signal? Please explain who will make this determination, and what criteria will be used to determine whether a service would “inhibit” response to the VGI rate.

SDG&E Response:

The section quoted above is a partial reference and does not convey the full context and the intentions of part F, which states, “Third party vendors of EV supply equipment 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.”

- a. The “additional or complementary services” will be those offered by vendors pre-qualified by SDG&E to help meet the objectives of the VGI Program. The types of services envisioned are best answered by those vendors, once they are qualified to participate. The purpose of part F is to foster the development and provision of innovative services to site hosts and EV drivers that potentially can have a positive impact on the VGI Program and improve the overall program experience.
- b. No. This can’t be established until the RFI, RFP and vendor selection process has been implemented. The Agreement’s main guidance is that “...these services do not interfere with the objectives of the VGI Program.” As stated further in part F, “...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 VGI Program, and have the potential to enhance and improve the grid-integration outcomes of the VGI Program overall.”
- c. This is not anticipated. As stated in part F, “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.”
- d. The determining criteria would be any service that does not allow the VGI Rate to be communicated on a day-ahead basis to the EV driver, under the VGI Rate-to-Driver option, or to the site host, under the VGI Rate-to-Host option.

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10. Appendix A to the Agreement outlines “Roles, Responsibilities of the VGI Program Advisory Council” (referred to as “PAC”).
- a. What stakeholders will and will not be allowed to participate on the council? Please provide a list of criteria for inclusion in this council.
 - b. What, if any, formal authority does the PAC have to modify SDG&E’s program? Please provide in this response an account of whether the PAC can override any decision made by SDG&E related to implementation of the VGI Pilot.

SDG&E Response:

- a. SDG&E seeks to encourage broad and diverse stakeholder participation over the four years of the program, as stated in the opening paragraph of Appendix A to the Agreement, “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 VGI 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.”
- b. As stated in the second paragraph of Appendix A to the Agreement: “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 VGI 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 VGI 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 VGI Program, so as not to impact its overall progress.”

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11. Please describe how Appendix C “RFI and RFP Process Clarification” alters SDG&E’s VGI Pilot application.

SDG&E Response:

Appendix C to the Agreement does not alter SDG&E’s VGI Pilot application. The language contained in Appendix C to the Agreement, as stated in the title, was included to help clarify the RFI and RFP processes.