

**TURN DATA REQUEST
TURN-SDG&E-DR-06
SDG&E VEHICLE GRID INTEGRATION PROJECT
A.14-04-014
SDG&E RESPONSE
DATE RECEIVED: MARCH 20, 2015
DATE RESPONDED: APRIL 3, 2015**

1. Re. Table 6-12: Please provide the “Total benefits” and “total costs,” for each test, for each year of the cost-effectiveness period (2014-2028), both in nominal and constant \$.

SDG&E Response:

Please see spreadsheet titled, “TURN DR06 – Q1.xlsx” for response.

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2. Follow-up to TURN DR 05, question 6 and the revised testimony of Cynthia Fang (Ch.3), and regarding the C-CPP adder:
 - a. Please explain how the C-CPP adder is calculated? Please provide any relevant workpapers.
 - b. Please explain whether the C-CPP adder is constant for a given year?
 - c. Is the C-CPP adder related to existing CPP tariff? If yes, please explain.

SDG&E Response:

- a. Similar to the existing Schedule EECC-CPP-D, the C-CPP adder within the VGI rate is designed to recover equivalent commodity capacity costs to those that would be recovered through the standard CPP adder, but instead of 7 hours each event day over an average of 9 event days, the VGI C-CPP adder is applied to a projected 150 hours a given year. Schedule EECC-CPP-D includes an option to pay a monthly Capacity Reservation Charge (“CRC”), which is designed to recover the equivalent capacity costs. See workpapers titled, “Chapter 3_ - _VGI_Workpapers_ - _Updated_for_Errata.xls,” specifically the “VGI Commodity” tab.
- b. No, similar to the standard CPP adder, the C-CPP adder will change with changes in commodity revenue requirements.
- c. The C-CPP adder for VGI is developed under the same concept as Schedule EECC-CPP-D, (though does not include the CRC option) but provides a more granular price signal. The VGI C-CPP adder can be applied to the top 150 forecasted hours independently of the existing CPP program, but in the event that a CPP day is called and does not include any forecasted top 150 hours, SDG&E will implement the VGI C-CPP adder in a manner consistent with the program, as noted in the testimony of SDG&E Witness Cynthia Fang at page CF-12, lines 7-10.

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3. Re. SDG&E Schedule EECC-CPP-D as it relates to the VGI rate:
 - a. Do the TOU periods apply to the VGI rate for non-CPP event days?
 - b. Does the capacity reservation (SC 13) apply?

SDG&E Response:

- a. No, the VGI rate is an hourly rate, not a TOU rate.
- b. No, the VGI rate does not include a capacity reservation option.

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4. Regarding the D-CPP:
- a. Concerning the top 200 hours: Please reconcile the statements in the response to TURN DR 05, question 06(a) with the testimony of Martin (Chapter 6) at JCM-13:21-23. Will there be separate calculations of the top 200 hours for each circuit, or will the CAISO load curve be used as a proxy for some or all of the circuits?
 - b. If SDG&E calculates the top 200 hours for each circuit separately, please explain how SDG&E obtains the data and forecasts the top 200 hours for each circuit independently.

SDG&E Response:

- a. The specific language identified by TURN is “The Distribution Critical Peak Pricing (D-CPP) Hourly Adder is applied to the top 200 statewide gross load forecast hours, as a proxy for SDG&E circuit data. Modeling VGI prices for each SDG&E circuit is beyond the capabilities of the cost-benefit model.” JCM – 13:21-23. As indicated by the testimony of J.C. Martin at page JCM-13, lines 9-11, “The VGI Rate is calculated in the cost-benefit model as described in Ms. Fang’s testimony with three exceptions to accommodate price modeling limitations.” The portion of Witness Martin’s testimony cited in the question is an explanation of the third of those three exceptions. The testimony of JC Martin speaks only to the cost-benefit modeling, and with regard to the VGI rate only how it is applied in that analysis. It does not speak to the actual application of the VGI rate. The D-CPP adder will be applied to the top 200 hours as described in the response to question 4b.
- b. SDG&E obtains circuit level information by aggregating customer load to respectively mapped circuits. SDG&E calculates the top 200 hours of each circuit by taking the circuit’s prior-year historical load and uses that information to establish a threshold amount. When the forecast identifies an hour exceeding the prior year’s top 200 hour threshold, the D-CPP Hourly Adder will be applied and presented to the customer on a day-ahead basis.

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5. Regarding the load shown in response to TURN DR 02, question 02: Please separate the GWh amounts shown in Rows 44-47 (VGI scenario) by amounts billable only under the VGI tariff versus other tariffs. Provide the data for each year in a similar spreadsheet format.

SDG&E Response:

Please see spreadsheet titled, "TURN DR06 – Q5.xlsx" for response.

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6. Please assume SDG&E were installing the VGI equipment subject to Rules 15 and 16 – what elements (category and costs) as shown in Schimka WP would be classified as special or added facilities?

SDG&E Response:

SDG&E is not proposing to install VGI equipment subject to Rules 15 or 16. Typical elements of a new service that are classified as special or added facilities are trenching, conduit, and substructures, as well as new service metering. SDG&E has not done analysis to determine what costs would be attributed to special or added facilities as they pertain to Rules 15 or 16. SDG&E objects to performing analysis to support this hypothetical as unduly burdensome.

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7. Regarding Table RS-2 in SCE Witness Randy Schimka's 'cost estimate' workpapers:
- a. Please provide a detailed definition of, "Data Recording Meter and Power Control Relay Modules."
 - b. If the "Data Recording Meter and Power Control Relay Modules," are separate pieces of equipment (i.e., there is a data recording meter and a power control relay, separately), please so indicate and divide the total amount indicated per site (i.e., \$4,700) between the amount for data recording meters and power control relays, if applicable.
 - c. Please explain in detail the activities and components involved in the line item, 'Kiosk & 10 circuit install (conduit, kiosk pad, wiring)'. Please include in your response, but do not limit it to, a description of where, with respect to the panel, kiosk and charging stations that SDG&E would install such circuits.
 - d. Please divide the \$30,000 included for CapEx Labor in the 'Kiosk & 10 circuit install (conduit, kiosk pad, wiring)' line between 'Kiosk' and '10 circuit install (conduit, kiosk pad, wiring)'. Please further divide '10 circuit install (conduit, kiosk pad, wiring)' into separate estimates for 'conduit', 'kiosk pad', 'wiring', and any other relevant category, such that the sum of the separate items equals the total identified for the '10 circuit install (conduit, kiosk pad, wiring)' division requested in this subpart.
 - e. Please identify the line item in which SDG&E includes materials costs for the '10 circuit install', which includes the parenthetical phrase, "(conduit, kiosk pad, wiring)" but whose cost is listed under CapEx Labor; please also provide the amount SDG&E estimates such materials costing, segmented by type of material (e.g., conduit, wiring, etc.).
 - i. Please identify in which cost type (e.g., CapEx Labor, CapEx Non-Labor, etc.) SDG&E includes materials costs for conduit, kiosk pad, and wiring costs and why? If SDG&E has not included materials costs for such items in its proposal, please explain why it has not.

SDG&E Response:

- a. The data recording meters and the power relay control modules are part of the central access control portion of SDG&E's prototype VGI system. The data recording meter portion of the assembly is used to collect billing data for each EVSE. The power relay control module portion of the assembly is used by the VGI access control system to control the flow of power that goes to each EVSE.
- b. The "Data Recording Meters and Power Control Relay Modules" are part of a single assembly. A VGI installation of 10 EVSE would require 10 of these assemblies.
- c. The line item in question covers the cost of purchasing and installing the access control kiosk pad, attaching the kiosk to the pad, and the purchase and installation of conduit and wire for the 208-240 volt circuits that run from the service panel to the kiosk and then to the 10 EVSE stub-ups.

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Response to Question 7 (Continued)

- d. The \$30,000 estimated for this line item was not broken down into the various components. It is an overall average estimate of what a contractor would charge to procure and install these components of the VGI system, given the wide range of physical layouts that will be seen at various VGI project sites for workplace and multi-unit dwelling locations.
- e. The material costs in question were included in the “10 circuit install” overall average \$30,000 CapEx Labor cost estimate.
 - i. Costs were estimated this way because SDG&E expects to contract this portion of the job out to a third party at a fixed cost. In addition, there are several variables in each VGI site that will also affect the final price from the contractor (such as distance, trenching through concrete, soil, asphalt, or mounting conduit on the wall in a parking structure, to mention some examples). This cost estimate is based on experience gained from observing other charging station projects in the field.

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8. SDG&E Testimony, Chapter 2, p. RS-14, lines 19-22, shows cost estimates for “VGI System Integration.” Page RS-15, lines 4-6, shows the cost estimate for “VGI Phone and Web Applications.” These line items are broadly described on page RS-15. Related to these cost estimates:
- a. Please list the specific components of these line items in greater detail, if available.
 - b. Please estimate the percentage of these costs related to the physical charging stations themselves, for instance the percentage related to software run on the actual charging stations.
 - i. What percentages of these costs are directly attributable to the VGI rate itself versus software/hardware on charging stations?

SDG&E Response:

- a. VGI System Integration components:

Contract labor for software development
(includes 10% contingency):

• Enrollment	\$ 25,344
• SDG&E Customer Bill – Charge Station Billing	\$ 59,136
• VGI Program Reports	\$ 33,792
• VGI Program Enrollment	\$ 63,360
• Charge Station Pricing	\$ 278,784
• Charge Calculation Engine	\$ 481,536
• Meter Data Reconciliation	\$ 278,784
• System Logging, Exception Management, User Admin	\$ 25,344
• Reports	<u>\$ 50,688</u>

Total: \$1,296,768

Hardware:

(includes 10% Contingency and 8% sales tax)

• Hardware Costs (Servers)	\$ 89,100
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VGI Phone and Web App:

(includes 10% Contingency and 8% sales tax)

• Fixed price contract	\$ 178,200
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- b. Given the architecture of the prototype VGI system that SDG&E has built and is testing with employees, 0% of the costs outlined above are related to the physical charging stations themselves.
- i. 0% of the above costs in question 8a are attributable to software/hardware on the charging stations. The purpose of the costs for software development and the hardware are for managing billing, while the VGI phone and web app are for drivers to use to manage the charging experience (which includes pricing).