

**ORA DATA REQUEST
ORA-SDG&E-DR-006
SDG&E VEHICLE GRID INTEGRATION PROJECT
A.14-04-014
SDG&E RESPONSE
DATE RECEIVED: AUGUST 14, 2014
DATE RESPONDED: SEPTEMBER 16, 2014**

1. Please provide the following sensitivity runs.

a. Assume no tax credit starting in 2016.

SDG&E Response:

This sensitivity assumes that the federal tax credits do not continue beyond 2016. Illustrative results presented in Chapter 6 assumed federal tax credits are reduced over time and expire after 2023.

The sensitivity result shows that the Federal Tax Credit is reduced by approximately \$272.2 NPV million from \$300.1 to \$22.0 NPV millions in both scenarios, and all other test cost and benefit components are unchanged. Test results for RIM are unchanged from those presented in Chapter 6. Results for PCT and TRC are negative and SCT remains positive. Relative benefits of the VGI scenario remain consistent with Chapter 6 Table 6-11 results.

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|---|-------------------------------------|-------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|
| Sensitivity Analysis - Assume on Fed Tax Credits Starting in 2016 | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| Test Component | | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | |
| | | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT |
| EV Customer Costs & Benefits | Incremental Vehicle Cost | | (\$538.8) | (\$538.8) | (\$538.8) | | (\$538.8) | (\$538.8) | (\$538.8) |
| | Utility Bills | \$493.4 | (\$479.8) | | | \$494.8 | (\$471.0) | | |
| | Commercial Charging Fees | | (\$35.8) | | | | (\$62.9) | | |
| | Gasoline Savings | | \$961.3 | \$961.3 | \$961.3 | | \$961.3 | \$961.3 | \$961.3 |
| | Federal Tax Credits | | \$22.9 | \$22.9 | \$22.9 | | \$22.9 | \$22.9 | \$22.9 |
| | State Tax Credits | | \$91.1 | | | | \$91.1 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$79.1) | | (\$79.1) | (\$79.1) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$109.7) | (\$109.7) |
| | Customer Charger Costs | | (\$125.9) | (\$125.9) | (\$125.9) | | (\$125.9) | (\$125.9) | (\$125.9) |
| Electric Supply Costs | | (\$286.6) | | (\$286.6) | (\$286.6) | (\$303.4) | | (\$303.4) | (\$303.4) |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$50.3 | | | | \$50.3 |
| | LCFS Benefit | | | | \$100.1 | | | | \$100.1 |
| | Criteria Pollutant Benefit | | | | \$43.5 | | | | \$43.5 |
| Grand Total | | \$127.7 | (\$104.9) | (\$83.8) | \$110.1 | \$191.4 | (\$123.1) | (\$93.4) | \$100.5 |
| Total Costs | | \$365.7 | \$1,180.2 | \$1,068.0 | \$1,068.0 | \$303.4 | \$1,198.5 | \$1,077.7 | \$1,077.7 |
| Total Benefits | | \$493.4 | \$1,075.3 | \$984.3 | \$1,178.1 | \$494.8 | \$1,075.3 | \$984.3 | \$1,178.1 |
| C/B Ratio | | 1.35 | 0.91 | 0.92 | 1.10 | 1.63 | 0.90 | 0.91 | 1.09 |

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Question 1b (Continued)

- b. 75% TOU (non-tiered) rates and 25% tiered rates**

SDG&E Response:

This sensitivity assumes that single family (SF) residential rates for home PEV charging are 75% EV-TOU-2 (non-tiered) and 25% DR (tiered residential) rates. Illustrative results presented in Chapter 6 assumed that 50% of all SF residential EV charging occurs under the DR rate and 50% under EV-TOU-2 rate.

The sensitivity result shows that Utility Bills decrease for the SDG&E VGI scenario by \$61.0 NPV million, and decrease for the Non-utility Flat Fee scenario by \$62.2 NPV million. Electric Supply costs decrease for the VGI scenario by \$73.9 million and decrease for the Flat Fee scenario by \$75.5 million. Cost test results improved for both scenarios, and the relative benefit of the SDG&E VGI Rate scenario decreased by \$0.4 NPV millions for the RIM test, \$1.1 NPV millions for the PCT and \$1.6 NPV millions for both the TRC and SCT.

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|---|-------------------------------------|-------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|
| Sensitivity Analysis - assume 75% TOU (non-tiered) rates and 25% tiered rates | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| Test Component | | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | |
| | | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT |
| EV Customer Costs & Benefits | Incremental Vehicle Cost | | (\$538.8) | (\$538.8) | (\$538.8) | | (\$538.8) | (\$538.8) | (\$538.8) |
| | Utility Bills | \$432.4 | (\$418.7) | | | \$432.6 | (\$408.8) | | |
| | Commercial Charging Fees | | (\$35.8) | | | | (\$62.9) | | |
| | Gasoline Savings | | \$961.3 | \$961.3 | \$961.3 | | \$961.3 | \$961.3 | \$961.3 |
| | Federal Tax Credits | | \$300.1 | \$300.1 | \$300.1 | | \$300.1 | \$300.1 | \$300.1 |
| | State Tax Credits | | \$91.1 | | | | \$91.1 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$79.1) | | (\$79.1) | (\$79.1) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$109.7) | (\$109.7) |
| | Customer Charger Costs | | (\$125.9) | (\$125.9) | (\$125.9) | | (\$125.9) | (\$125.9) | (\$125.9) |
| Electric Supply Costs | | (\$212.7) | | (\$212.7) | (\$212.7) | (\$227.9) | | (\$227.9) | (\$227.9) |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$50.3 | | | | \$50.3 |
| | LCFS Benefit | | | | \$100.1 | | | | \$100.1 |
| | Criteria Pollutant Benefit | | | | \$43.5 | | | | \$43.5 |
| Grand Total | | \$140.6 | \$233.3 | \$267.4 | \$461.2 | \$204.7 | \$216.3 | \$259.3 | \$453.2 |
| Total Costs | | \$291.8 | \$1,119.2 | \$994.1 | \$994.1 | \$227.9 | \$1,136.3 | \$1,002.2 | \$1,002.2 |
| Total Benefits | | \$432.4 | \$1,352.6 | \$1,261.5 | \$1,455.3 | \$432.6 | \$1,352.6 | \$1,261.5 | \$1,455.3 |
| C/B Ratio | | 1.48 | 1.21 | 1.27 | 1.46 | 1.90 | 1.19 | 1.26 | 1.45 |

Corollary sensitivity 25% TOU (non-tiered) rates and 75% tiered rates

This sensitivity assumes that single family (SF) residential rates for home PEV charging are 25% EV-TOU-2 (non-tiered) and 75% DR (tiered residential) rates.

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Question 1b (Continued)

The sensitivity result shows that Utility Bills increase for the SDG&E VGI scenario by \$61.0 NPV million, and increase for the Non-utility Flat Fee scenario by \$62.2 NPV million. Electric Supply costs increase for the VGI scenario by \$73.9 million and decrease for the Flat Fee scenario by \$75.5 million. Cost test results worsened for both scenarios, and the relative benefit of the SDG&E VGI Rate scenario increased by \$0.4 NPV million for the RIM test, \$1.1 NPV million for the PCT and \$1.6 NPV million for both the TRC and SCT.

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|---|-------------------------------------|-------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|
| Sensitivity Analysis - assume 25% TOU (non-tiered) rates and 75% tiered rates | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| | Test Component | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | |
| | | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT |
| | Incremental Vehicle Cost | | (\$538.8) | (\$538.8) | (\$538.8) | | (\$538.8) | (\$538.8) | (\$538.8) |
| EV | Utility Bills | \$554.5 | (\$540.8) | | | \$556.9 | (\$533.1) | | |
| Customer | Commercial Charging Fees | | (\$35.8) | | | | (\$62.9) | | |
| Costs & Benefits | Gasoline Savings | | \$961.3 | \$961.3 | \$961.3 | | \$961.3 | \$961.3 | \$961.3 |
| | Federal Tax Credits | | \$300.1 | \$300.1 | \$300.1 | | \$300.1 | \$300.1 | \$300.1 |
| | State Tax Credits | | \$91.1 | | | | \$91.1 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$79.1) | | (\$79.1) | (\$79.1) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$109.7) | (\$109.7) |
| | Customer Charger Costs | | (\$125.9) | (\$125.9) | (\$125.9) | | (\$125.9) | (\$125.9) | (\$125.9) |
| Electric Supply Costs | | (\$360.6) | | (\$360.6) | (\$360.6) | (\$378.9) | | (\$378.9) | (\$378.9) |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$50.3 | | | | \$50.3 |
| | LCFS Benefit | | | | \$100.1 | | | | \$100.1 |
| | Criteria Pollutant Benefit | | | | \$43.5 | | | | \$43.5 |
| Grand Total | | \$114.8 | \$111.3 | \$119.5 | \$313.4 | \$178.1 | \$91.9 | \$108.3 | \$302.2 |
| Total Costs | | \$439.7 | \$1,241.3 | \$1,142.0 | \$1,142.0 | \$378.9 | \$1,260.6 | \$1,153.2 | \$1,153.2 |
| Total Benefits | | \$554.5 | \$1,352.6 | \$1,261.5 | \$1,455.3 | \$556.9 | \$1,352.6 | \$1,261.5 | \$1,455.3 |
| C/B Ratio | | 1.26 | 1.09 | 1.10 | 1.27 | 1.47 | 1.07 | 1.09 | 1.26 |

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Question 1 (Continued)

- c. Charger utilization rate of 0.5 per day

SDG&E Response:

This sensitivity assumes a 0.5 vehicles per day utilize the workplace and MuD VGI charging technology installations (in the SDG&E VGI Rate scenario) and the non-utility owned charging installations (in the Non-utility Flat Fee scenario). Illustrative results presented in Chapter 6 assumed that 1.0 vehicle per day utilized the workplace and MuD charging installation in the two scenarios. This sensitivity was calculated by reducing by 50% the 3,300 EVs added to the CalETC forecast, described in Chapter 6 and detailed in Table 6-5.

The results for this sensitivity with lower charger utilization and fewer EVs reduced almost all cost and benefit test components, except the Utility & 3rd Party Charger and Admin Costs. All cost effectiveness tests remain positive for the SDG&E VGI Rate scenario, however they are lower by \$6.6 to \$18.5 NPV million. The relative benefit of the SDG&E VGI Rate scenario decrease by \$4.3 NPV million for the RIM test, \$9.0 NPV million for the PCT and \$4.4 NPV million for both the TRC and SCT.

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|--|-------------------------------------|------------------------------------|----------------|----------------|----------------|--------------------------------------|----------------|----------------|----------------|
| Sensitivity Analysis - Assume Charger Utilization Rate of 0.5 Per Day | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| Test Component | | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | |
| | | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT |
| EV Customer Costs & Benefits | Incremental Vehicle Cost | | (\$526.3) | (\$526.3) | (\$526.3) | | (\$526.3) | (\$526.3) | (\$526.3) |
| | Utility Bills | \$486.9 | (\$473.6) | | | \$488.1 | (\$469.3) | | |
| | Commercial Charging Fees | | (\$34.9) | | | | (\$48.4) | | |
| | Gasoline Savings | | \$941.3 | \$941.3 | \$941.3 | | \$941.3 | \$941.3 | \$941.3 |
| | Federal Tax Credits | | \$292.9 | \$292.9 | \$292.9 | | \$292.9 | \$292.9 | \$292.9 |
| | State Tax Credits | | \$88.8 | | | | \$88.8 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$79.1) | | (\$79.1) | (\$79.1) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$109.7) | (\$109.7) |
| | Customer Charger Costs | | (\$125.6) | (\$125.6) | (\$125.6) | | (\$125.6) | (\$125.6) | (\$125.6) |
| Electric Supply Costs | | (\$286.7) | | (\$286.7) | (\$286.7) | (\$299.1) | | (\$299.1) | (\$299.1) |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$49.2 | | | | \$49.2 |
| | LCFS Benefit | | | | \$98.0 | | | | \$98.0 |
| | Criteria Pollutant Benefit | | | | \$42.7 | | | | \$42.7 |
| Grand Total | | \$121.1 | \$162.7 | \$178.9 | \$368.8 | \$189.1 | \$153.4 | \$173.7 | \$363.5 |
| Total Costs | | \$365.8 | \$1,160.4 | \$1,055.3 | \$1,055.3 | \$299.1 | \$1,169.6 | \$1,060.6 | \$1,060.6 |
| Total Benefits | | \$486.9 | \$1,323.0 | \$1,234.3 | \$1,424.1 | \$488.1 | \$1,323.0 | \$1,234.3 | \$1,424.1 |
| C/B Ratio | | 1.33 | 1.14 | 1.17 | 1.35 | 1.63 | 1.13 | 1.16 | 1.34 |

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Question 1 (Continued)

- d. EVSE costs 25% higher than base case. EVSE costs 25% lower than base case.

SDG&E Response:

This sensitivity assumes that the EVSE capital cost are 25% higher for the workplace and MuD VGI charging technology installations (in the SDG&E VGI Rate scenario) and the non-utility owned charging installations (in the Non-utility Flat Fee scenario). Illustrative results presented in Chapter 6 included EVSE capital costs within Utility & 3rd Party Charger and Admin Costs, and were estimated based on the revenue requirement for the EVSE equipment and installation estimated at \$21,600 per typical VGI installation as described in Chapter 2, section C.3.

The results for this sensitivity are higher Utility Charger and Admin Costs in the SDG&E VGI Rate Scenario, by \$4.7 NPV million, and higher 3rd Party Charger and Admin Costs of \$4.6 NPV million. The lower 3rd Party cost impact is mainly due to the absence of Franchise Fees and Uncollectables (FF&U) which do not apply to a non-utility owed EV charger. All cost and benefit tests remain positive. The relative benefit of the SDG&E VGI Rate scenario decrease by \$4.7 NPV million for the RIM test, \$0.0 NPV million for the PCT and \$0.2 NPV million for both the TRC and SCT.

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|--|-------------------------------------|-------------------------|----------------|----------------|----------------|-------------------------------|----------------|----------------|----------------|
| Sensitivity Analysis - Assume EVSE Costs 25% Higher Than Base Case | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| Test Component | | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | |
| | | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT |
| EV Customer Costs & Benefits | Incremental Vehicle Cost | | (\$538.8) | (\$538.8) | (\$538.8) | | (\$538.8) | (\$538.8) | (\$538.8) |
| | Utility Bills | \$493.4 | (\$479.8) | | | \$494.8 | (\$471.0) | | |
| | Commercial Charging Fees | | (\$35.8) | | | | (\$62.9) | | |
| | Gasoline Savings | | \$961.3 | \$961.3 | \$961.3 | | \$961.3 | \$961.3 | \$961.3 |
| | Federal Tax Credits | | \$300.1 | \$300.1 | \$300.1 | | \$300.1 | \$300.1 | \$300.1 |
| | State Tax Credits | | \$91.1 | | | | \$91.1 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$83.9) | | (\$83.9) | (\$83.9) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$114.2) | (\$114.2) |
| | Customer Charger Costs | | (\$125.9) | (\$125.9) | (\$125.9) | | (\$125.9) | (\$125.9) | (\$125.9) |
| Electric Supply Costs | | (\$286.6) | | (\$286.6) | (\$286.6) | (\$303.4) | | (\$303.4) | (\$303.4) |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$50.3 | | | | \$50.3 |
| | LCFS Benefit | | | | \$100.1 | | | | \$100.1 |
| | Criteria Pollutant Benefit | | | | \$43.5 | | | | \$43.5 |
| Grand Total | | \$123.0 | \$172.3 | \$188.7 | \$382.6 | \$191.4 | \$154.1 | \$179.2 | \$373.1 |
| Total Costs | | \$370.5 | \$1,180.2 | \$1,072.8 | \$1,072.8 | \$303.4 | \$1,198.5 | \$1,082.2 | \$1,082.2 |
| Total Benefits | | \$493.4 | \$1,352.6 | \$1,261.5 | \$1,455.3 | \$494.8 | \$1,352.6 | \$1,261.5 | \$1,455.3 |
| C/B Ratio | | 1.33 | 1.15 | 1.18 | 1.36 | 1.63 | 1.13 | 1.17 | 1.34 |

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Question 1d (Continued)

Corollary sensitivity EVSE costs 25% lower than base case.

This sensitivity assumes that the EVSE capital cost are 25% lower for the workplace and MuD VGI charging technology installations (in the SDG&E VGI Rate scenario) and the non-utility owned charging installations (in the Non-utility Flat Fee scenario).

The results for this sensitivity are lower Utility Charger and Admin Costs in the SDG&E VGI Rate Scenario, by \$4.7 NPV million, and lower 3rd Party Charger and Admin Costs of \$4.6 NPV million. The relative benefit of the SDG&E VGI Rate scenario increase by \$4.7 NPV million for the RIM test, \$0.0 NPV million for the PCT and \$0.2 NPV million for both the TRC and SCT.

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|---|-------------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------|
| Sensitivity Analysis - Assume EVSE Costs 25% Lower Than Base Case | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| Test Component | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | | |
| | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT | |
| EV Customer Costs & Benefits | Incremental Vehicle Cost | | (\$538.8) | (\$538.8) | (\$538.8) | | (\$538.8) | (\$538.8) | (\$538.8) |
| | Utility Bills | \$493.4 | (\$479.8) | | | \$494.8 | (\$471.0) | | |
| | Commercial Charging Fees | | (\$35.8) | | | | (\$62.9) | | |
| | Gasoline Savings | | \$961.3 | \$961.3 | \$961.3 | | \$961.3 | \$961.3 | \$961.3 |
| | Federal Tax Credits | | \$300.1 | \$300.1 | \$300.1 | | \$300.1 | \$300.1 | \$300.1 |
| | State Tax Credits | | \$91.1 | | | | \$91.1 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$74.4) | | (\$74.4) | (\$74.4) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$105.1) | (\$105.1) |
| | Customer Charger Costs | | (\$125.9) | (\$125.9) | (\$125.9) | | (\$125.9) | (\$125.9) | (\$125.9) |
| Electric Supply Costs | (\$286.6) | | (\$286.6) | (\$286.6) | (\$303.4) | | (\$303.4) | (\$303.4) | |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$50.3 | | | | \$50.3 |
| | LCFS Benefit | | | | \$100.1 | | | | \$100.1 |
| | Criteria Pollutant Benefit | | | | \$43.5 | | | | \$43.5 |
| Grand Total | \$132.4 | \$172.3 | \$198.2 | \$392.1 | \$191.4 | \$154.1 | \$188.4 | \$382.3 | |
| Total Costs | \$361.0 | \$1,180.2 | \$1,063.3 | \$1,063.3 | \$303.4 | \$1,198.5 | \$1,073.1 | \$1,073.1 | |
| Total Benefits | \$493.4 | \$1,352.6 | \$1,261.5 | \$1,455.3 | \$494.8 | \$1,352.6 | \$1,261.5 | \$1,455.3 | |
| C/B Ratio | 1.37 | 1.15 | 1.19 | 1.37 | 1.63 | 1.13 | 1.18 | 1.36 | |

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Question 1 (Continued)

- e. Shareholder benefits based on the base case run.

SDG&E Response:

SDG&E's CPUC authorized rate of return (ROR) is 7.79%, consisting of:

- i) cost of debt - 2.26%
- ii) preferred stock return - 0.17%
- iii) common stock return - 5.36%

Shareholder benefits are the authorized returns on preferred stock and common stock. Under the "base case run", as provided in Jonathan Atun's testimony (Chapter 4 Appendix B, page B2), total authorized return on preferred stock is \$1.1 million and total authorized return on common stock is \$35.3 million over the life of the project.

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Question 1 (Continued)

- f. Shareholder benefits based on EVSE costs paid for and 100% owned by shareholders.

SDG&E Response:

A scenario where shareholders pay 100% of EVSE costs is not applicable to the VGI Pilot Program. SDG&E makes investments and via the Regulatory Compact, is given the opportunity to recover both its original investment and also has an opportunity to earn a fair return on that investment. Shareholders paying for and owning the EVSE equipment without earning a return on the investment and with no ability to recover their original investment is not logical, is not contemplated in this program and is inconsistent with the Regulatory Compact.

However, in an attempt to be responsive to the request, we have calculated the reduction in preferred stock and common stock returns related to the EVSE costs as follows:

Preferred stock return - \$0.2 million
Common stock return - \$6.3 million

As mentioned in response e) above, total authorized return on preferred stock is \$1.1 million and total authorized return on common stock is \$35.3 million. Therefore, the returns on the non-EVSE costs would be 0.9 million (\$1.1 minus \$0.2) and return on common is reduced to \$29.0 million (\$35.3 minus \$6.3).

In addition, since the shareholders pay 100% of the EVSE costs without recovery, this amount would be a direct offset to any amounts received. Therefore, the \$29.9 million in remaining authorized returns would be reduced by the \$24.5 million of unrecovered investment, leaving a net amount of \$5.4 million. This amount does not result in a fair return on the utility investment; results in substantially lower than authorized CPUC returns and is inconsistent with the Regulatory Compact.

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Question 1 (Continued)

- g. The Resource Balance Year is 2022 rather than 2014.

SDG&E Response:

This sensitivity assumes that the Resource Balance Year (RBY) used to calculate System Capacity Costs in the DER avoided cost model is adjusted from 2014 to 2022. The resource balance year (RBY) primarily impacts the System Capacity Cost component of the Electric Supply Costs, but also indirectly impacts utility rates because the DER avoided cost model applies an annual marginal cost escalation to the utility rates. Differences in the escalation assumptions for Electric Supply Costs and Utility Bills could impact the RIM test results; therefore the avoided cost model uses equal escalations for Electric Supply Costs and Utility Bills.

The results for this sensitivity are higher Electric Supply costs by \$2.9 NPV million in the SDG&E VGI scenario and \$3.4 NPV million in the Non-utility Flat Fee Scenario. This sensitivity also increases Utility Bills from \$53.3 to \$56.0 NPV million across the two scenarios. Commercial Charging Fees also increase in both scenarios. These results are due to a greater System Capacity Cost escalation rate under a 2022 RBY assumption than under a 2014 RBY assumption.

The 2014 RBY, captures capacity costs post-RBY (2015-2028), which are residual capacity (RA) value estimates. The 2022 RBY, uses capacity costs in the early years equal to estimated RA value. Estimated RA values increase more rapidly with time and with load growth than residual capacity costs, thus a 2022 RBY captures greater escalation in years 2015 through 2022 than a 2014 RBY. Therefore, utility rates are escalated at a higher rate under the 2022 RBY scenario, resulting in higher Utility Bills. Commercial Charging Fees also rise in this sensitivity, indicating that the higher utility rates are driving some EV charging to Commercial Charging facilities with a Flat Fee.

All cost and benefit tests remain positive. In the SDG&E VGI Rate scenario the RIM test results improve by \$58.5 NPV million, the PCT worsens by \$58.1 NPV million, and the TRC and SCT improve by \$2.9 NPV million. The relative benefit of the SDG&E VGI Rate scenario decrease by \$0.8 NPV million for the RIM test, improves \$2.1 NPV million for the PCT and decrease \$0.4 NPV million for both the TRC and SCT.

ORA DATA REQUEST
ORA-SDG&E-DR-006
SDG&E VEHICLE GRID INTEGRATION PROJECT
A.14-04-014
SDG&E RESPONSE
DATE RECEIVED: AUGUST 14, 2014
DATE RESPONDED: SEPTEMBER 16, 2014

Question 1g (Continued)

| Cost Effectiveness Tests - Illustrative Detailed Results | | | | | | | | | |
|--|-------------------------------------|-------------------------|----------------|----------------|----------------|-------------------------------|---------------|----------------|----------------|
| Sensitivity Analysis - Assume Resource Balance Year is 2022 rather than 2014 | | | | | | | | | |
| (NPV \$ Millions) | | | | | | | | | |
| Test Component | | SDG&E VGI Rate Scenario | | | | Non-utility Flat Fee Scenario | | | |
| | | RIM | PCT | TRC | SCT | RIM | PCT | TRC | SCT |
| EV Customer Costs & Benefits | Incremental Vehicle Cost | | (\$538.8) | (\$538.8) | (\$538.8) | | (\$538.8) | (\$538.8) | (\$538.8) |
| | Utility Bills | \$549.0 | (\$533.8) | | | \$550.7 | (\$524.3) | | |
| | Commercial Charging Fees | | (\$39.9) | | | | (\$69.8) | | |
| | Gasoline Savings | | \$961.3 | \$961.3 | \$961.3 | | \$961.3 | \$961.3 | \$961.3 |
| | Federal Tax Credits | | \$300.1 | \$300.1 | \$300.1 | | \$300.1 | \$300.1 | \$300.1 |
| | State Tax Credits | | \$91.1 | | | | \$91.1 | | |
| EV Charger & Admin Costs | Utility Charger and Admin Costs | (\$79.1) | | (\$79.1) | (\$79.1) | | | | |
| | Third Party Charger and Admin Costs | | | (\$37.7) | (\$37.7) | | | (\$109.7) | (\$109.7) |
| | Customer Charger Costs | | (\$125.9) | (\$125.9) | (\$125.9) | | (\$125.9) | (\$125.9) | (\$125.9) |
| Electric Supply Costs | | (\$283.7) | | (\$283.7) | (\$283.7) | (\$300.0) | | (\$300.0) | (\$300.0) |
| Societal Benefits | Avoided Gasoline CO2 | | | | \$50.3 | | | | \$50.3 |
| | LCFS Benefit | | | | \$100.1 | | | | \$100.1 |
| | Criteria Pollutant Benefit | | | | \$43.5 | | | | \$43.5 |
| Grand Total | | \$186.2 | \$114.2 | \$196.4 | \$390.2 | \$250.7 | \$93.9 | \$187.2 | \$381.0 |
| Total Costs | | \$362.8 | \$1,238.4 | \$1,065.1 | \$1,065.1 | \$300.0 | \$1,258.7 | \$1,074.3 | \$1,074.3 |
| Total Benefits | | \$549.0 | \$1,352.6 | \$1,261.5 | \$1,455.3 | \$550.7 | \$1,352.6 | \$1,261.5 | \$1,455.3 |
| C/B Ratio | | 1.51 | 1.09 | 1.18 | 1.37 | 1.84 | 1.07 | 1.17 | 1.35 |