

A.17-01-020
SDG&E Transportation Electrification Proposals
TURN Data Request

Data Request Number: TURN-02
Date Sent: February 15, 2017
Response Due: March 3, 2017

Please provide an electronic response to the following question. A hard copy response is unnecessary. The response should be provided on a CD sent by mail or as attachments sent by e-mail to the following:

Haley de Genova	Elise Torres	Eric Borden
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For each question, please provide the name of each person who materially contributed to the preparation of the response. If different, please also identify the SDG&E witness who would be prepared to respond to cross-examination questions regarding the response.

For any questions requesting numerical recorded data, please provide all responses in working Excel spreadsheet format if so available, with cells and formulae functioning.

For any question requesting documents, please interpret the term broadly to include any and all hard copy or electronic documents or records in SDG&E's possession.

Please note that electric vehicle ("EV") refers to both battery electric vehicles and plug-in hybrid electric vehicles ("PHEV") unless otherwise noted.

1. Regarding line extension allowances (Rule 15), please explain if residential charging infrastructure falls under line extension allowance rules. For example, if a homeowner were to install a charging station today, would they receive a line extension allowance? Please explain the amount of the allowance and current rules, citing applicable sources.
2. Regarding line extension allowances (Rule 15):
 - a. Please provide the formula for line extension allowances.

- b. Please provide a sample calculation for a line extension allowance (e.g. assuming incremental load of X kWh, how much the line extension allowance would be). Please show all steps in the calculation.
 - c. Is there a payback period that informs the line extension allowance calculation? If yes, please explain what it is and how it informs the calculation. If no, please describe if there is a typical payback period for line extension allowances.
3. Please provide all reports related to SDG&E's submetering pilots for electric vehicles to-date. If no reports are available please provide all available data and a description of results of the submetering pilots to-date.
4. Please provide a list of addresses and related map of all DC Fast Chargers and Level 2 public chargers in SDG&E's service territory. Please also indicate where the four Caltrans locations that have been selected are for the Electrify Local Highways project on this map.
5. Regarding the "Electrify Local Highways" project:
 - a. Please provide the addresses where the DCFC and L2 chargers will be located.
 - b. How many chargers will be deployed per site?
 - c. How many chargers exist or are planned separately from this program (by type) at the sites where SDG&E will deploy?
 - d. Please provide a cost estimate for make-ready infrastructure that can deliver 350kW of power per charging station. Please include all workpapers and assumptions related to this response.
6. Regarding the Ground Support Equipment Project at San Diego International Airport (SDIA):
 - a. Please provide the number of total internal combustion engine Ground Support Equipment vehicles in SDG&E's territory.
 - b. Please explain why it is necessary for SDG&E to own the charger in this program.
 - c. Please provide an estimate for avoided costs if this project utilized submeters rather than installing a "load research meter."
 - d. Please explain why a submeter to record charging from the EVSE is not planned for this project.
 - e. Please provide the costs incurred by SDIA for any currently installed chargers, amount of outside funding used (if any), and costs incurred by ratepayers related to installation of these chargers. Please provide all workpapers, sources, and calculations.
 - f. How many additional vehicles will SDIA agree to purchase before receiving ratepayer funds? Please explain.

7. Regarding the Medium/Heavy Duty and Forklift Port Electrification Project (Chapter 3):
 - a. Regarding the Table on page RS-32 “Leveraged Funding,” please explain whether this funding will offset ratepayer expenditures and by how much.
 - b. How many additional vehicles (separately for MD/HD and forklifts) will the Port purchase after SDG&E installs charging stations and other equipment? Will the Port be required to sign a contract committing to these vehicle purchases before the project begins? Please explain.
 - c. Related to part (b) please estimate the incremental load (kWh) and revenue (\$) due to the program on a per vehicle basis daily and annually. Please provide all workpapers and assumptions related to this response.
 - d. Please provide Figure 3-4 (p. RS-41) in Excel with all supporting data and workpapers.
 - e. Please provide the R.L. Polk Fleet data referenced in footnote 52 (p. RS-41) and an accompanying description of headers and acronyms in the data provided (if applicable).

8. Regarding the Fleet Delivery Services Project (SDG&E Testimony, Chapter 3):
 - a. How many electric delivery trucks does UPS own in California?
 - b. How many electric delivery trucks does UPS utilize at the specific site where SDG&E will deploy infrastructure (electric and diesel)?
 - c. How many chargers are currently installed at the three UPS sites where SDG&E will deploy its program? Who owns these charging stations?
 - d. Related to parts (b) and (c) if UPS has previously installed charging stations please indicate the cost to ratepayers in line extension allowance on a site and per charger basis. Please provide all workpapers and calculations related to this response.
 - e. Approximately how many gallons of fuel does a delivery truck use per day and annually? Please provide all sources/workpapers, including miles driven per day and fuel efficiency.
 - f. Will UPS sign a contract with SDG&E committing to the purchase of the 90 new delivery trucks referenced on page RS-48, line 9? Or have they already purchased the vehicles? Please explain.
 - g. Will the UPS site still have to pay demand charges? How will this impact the business case for EVs? Please provide all calculations and workpapers.
 - h. Will the L2 chargers be single or dual port?
 - i. Regarding the “CEC funded vans” discussed on page RS-53, line 14, what percentage of the upfront cost of the vans was covered by the CEC grant? Please provide all sources related to this response, including the purchase price and CEC grant amount if available.

9. Regarding the Green Taxi Program (beginning RS-61, Chapter 3):
 - a. What is the maximum power level the DC Fast Chargers will be capable of delivering on a per charger/ vehicle basis? Please explain and provide all workpapers and assumptions related to this response.
 - b. What is the maximum power level the charging infrastructure will be capable of delivering if all charging stations are utilized simultaneously? Please explain and provide all workpapers related to this response.
 - c. SDG&E states it will provide a “financial incentive of \$10,000 per EV” (RS-66, line 12). Please provide a list and dollar value amount of other incentives available to purchase an EV. Please provide all sources related to this response.
 - d. Please estimate how much of the first year’s fueling cost is covered by the “EV fueling credit” of \$4,000 (RS-66, line 14). Please provide all workpapers and sources related to this response.
 - e. Please provide all evidence known to SDG&E that EV taxi drivers will charge off-peak in response to price signals.

10. Regarding the “Green Shuttles” Program, what percentage of the cost of a shuttle is the \$10,000 financial incentive (RS-67, line 10) expected to provide, as a percentage of the total costs? Please provide all workpapers and sources related to this response.

11. Please provide the latest low carbon fuel standard (LCFS) report that indicates how much funding was collected and distributed on an annual basis.

12. Regarding the Dealership Incentives Project, please explain why SDG&E did not propose use of low carbon fuel standard funds for this program.

13. Please provide all data known to SDG&E, including all sources and workpapers, regarding the following:
 - a. The number of EV (including PHEV) drivers in SDG&E’s territory residing in a single family home versus multi-unit dwelling.
 - b. The stock of single family homes versus multi-family dwellings in SDG&E’s territory.
 - c. The number of EV drivers on a TOU rate.
 - d. The number of EV drivers using Level 1 charging versus Level 2 at the residence.
 - e. The number of EV drivers with access to workplace charging.
 - f. EV purchases by model on a monthly basis since 2013 to the most recent date available.

14. Please provide all workpapers and calculations related to Figure 4-4, page RS-8.

15. Page RS-12, lines 5-6, state “The residential charging program will also minimize new electrical infrastructure upgrades by encouraging the new load from EV adoption to shift to off-peak hours.” Related to this statement:
 - a. Please explain and list specifically what electrical infrastructure upgrades will be avoided or “minimized” due to expected off-peak EV charging.
 - b. Please explain how SDG&E will model peak load on the distribution circuit where residential charging infrastructure is installed. For example, how will SDG&E incorporate expected EV charging off-peak when considering whether or not to upgrade distribution infrastructure? Please explain.
16. Please provide the percentage of EV owners living in single family residences that rent their home versus those that own it in SDG&E’s territory.
17. Regarding “metrics” (p. RS-20, Chapter 4) does SDG&E plan to track incremental EV adoption due to the program? Please explain whether this is meant by “Annual growth in ZEV by type.”
18. Please explain what law or legal constraint prevents SDG&E from interfacing with the Department of Motor Vehicles (DMV) to know where all EV drivers live in its territory.
19. On page CF-26, SDG&E states “the GIC...[will be] based on average hourly demand rather than demand based on 15-minute interval data.” Please explain how “average hourly demand” is calculated and provide an example.
20. Please quantify the increase or decrease in bills (bill impact) for a current residential customer on a tiered rate that switches to the residential GIR rate. Please provide 2 calculations, one with average residential consumption for SDG&E’s territory and one with above average (150% of average) and provide all workpapers and assumptions related to this response.
21. Regarding Table 5-4, “Class Average Rates Impact:”
 - a. Please provide this table in Excel with all calculations.
 - b. Please explain why rates go down in 2018 and 2019 and provide all workpapers and an explanation of how this is calculated. This includes, but is not limited to, assumptions of customer uptake of the new residential GIR rate.
 - c. Please recreate this table through 2030 and provide both rate and bill impacts (\$) for the residential and small commercial rate classes due to SDG&E’s program.
22. Please provide all evidence, workpapers, and related source material related to SDG&E’s representation that its program will result in 59,322 incremental vehicles by 2030 (Chapter 8, Table 4, page 8 of the E3 Appendix A).

23. Related to Table 4, page 8 of Appendix A (Chapter 8), please explain why the total “Free Riders” vehicles do not increase between 2024 and 2030.
24. Regarding Table 8 on page 11 of Appendix A (Chapter 8):
- a. The table shows PHEVs use more electricity than BEVs. Why is this the case? Are driving patterns for the two vehicles the same or different? Please explain.
 - b. Please provide all assumptions regarding driving patterns and the source of this material that relate to this table.
25. From Chapter 8, Appendix A, please provide Figures 2 and 5 in Excel with all underlying calculations and assumptions.
26. Please provide a definition for “free riders” as referenced in Appendix A of Chapter 8. The definition should include whether free riders participate in the residential charging infrastructure program and how they affect the cost-effectiveness analysis.
27. Please provide SDG&E’s annual forecast of electric vehicles **without** the proposed residential charging program through 2030.
28. In Chapter 8, page 18 of Appendix A, E3 states “To estimate net program impacts, E3 analyzes a reference case with SDG&E-provided estimates of the number of customers who have purchased EVs and using a Level 1 charger under a non-integrated rate.”
- a. Please explain this statement – does this mean E3 modeled all EV drivers in the reference case as charging on a tiered rate, on peak, with Level 1 charging? Please explain.
 - b. Please explain the inputs and assumptions for the “reference case” and how this affects the cost-effectiveness calculations.