TURN DATA REQUEST
TURN-SDG&E-DR-01
SDG&E TRANSPORTATION ELECTRIFICATION MD/HD and V2G PROPOSALS (A.18-01-012)
SDG&E RESPONSE
DATE RECEIVED: February 13, 2018
DATE RESPONDED: February 27, 2018

Question 1: Provide all workpapers relating to SDG&E's Transportation Electrification (TE) Application, filed on January 22, 2018, regarding Medium and Heavy-Duty Electric Vehicles (MD/HD EVs) and a Vehicle-to-Grid (V2G) Pilot.

SDG&E Response: For the response to this question and the calculation is seeks, please refer to SDG&E attachments. Files marked Confidential contain Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023.

Chapter 2:

- Allowance Amounts – Confidential
- Final - Confidential - Unredacted - MD HD Cost Estimate 50 Percent utility ownership
- Final - Confidential - Unredacted - MD HD Cost Estimate 100 Percent utility ownership
- IHS Polk Derived Data

Chapter 3:

- SDGE WP - Bus Charging Cost Estimate - Rates Effective 1-1-2018 (1-9-18)

Chapter 4:

- Res Bill Calc Model 1-1-18 as present MDHD Application 2020 100
- Res Bill Calc Model 1-1-18 as present SB350 2020 50
- Res Bill Calc Model 1-1-18 as present SB350 2021 50
- Res Bill Calc Model 1-1-18 as present SB350 2021 100
- Res Bill Calc Model 1-1-18 as present SB350 2022 50
- Res Bill Calc Model 1-1-18 as present SB350 2022 100
- Res Bill Calc Model 1-1-18 as present SB350 2023 50
- Res Bill Calc Model 1-1-18 as present SB350 2023 100
- Class Average File 1-1-18 as present MDHD Application 2020 50
- Class Average File 1-1-18 as present MDHD Application 2020 100
- Class Average File 1-1-18 as present MDHD Application 2021 50
- Class Average File 1-1-18 as present MDHD Application 2021 100
- Class Average File 1-1-18 as present MDHD Application 2022 50
- Class Average File 1-1-18 as present MDHD Application 2022 100
- Class Average File 1-1-18 as present MDHD Application 2023 50
- Class Average File 1-1-18 as present MDHD Application 2023 100

Chapter 5:

- MDHD Buses-50percent-REV REQ Input-12-30-17
- MDHD Buses-100percent-REV REQ Input-12-30-17
- Rev Req Summary MDHD Elect. Summaries 12-30-17-PET Run Fed Tax Chng-01-09-18
- SEARCHABLE Statement No4-ManagerialCost Accounting Concepts Standards for the Federal Government

Chapter 7:

- MD-HD AQ Impacts (Final)
- MD-HD-OffRd AQ Impacts (Final

Question 2: In SDG&E's application, it states that, to minimize stranded assets, it will not deploy EV charging assets until the program participant commits to procure and operate EVs. How will SDG&E ensure the commitment of participants to procure and operate EVs?

SDG&E Response:
Program participants will be required to provide proof that they intend to procure an electric vehicle. This will include such evidence as a purchase order or other legal form of commitment that the program participant is going to purchase or lease an electric vehicle as part of their operations. Regarding operation of the vehicle, as stated on HJR-15, lines 6 – 9, program participants are businesses who rely on their vehicles to keep their businesses running. Given that program participants will be making a significant investment in the vehicle, granting access to their property and paying the incremental cost above the EVSE allowance amount, it is unlikely that they would then abandon the assets.

Question 3: In SDG&E's testimony, Ch. 2 HJR-20, SDG&E states that "The cost estimate was created using a given number of vehicles per vehicle class segment (e.g., Class 2-3, Class 4-5, etc)." Please explain the number of vehicles per vehicle weight class segment that SDG&E expected it would serve in developing its cost estimates for the MD/HD EV Charging Infrastructure Program.

SDG&E Response:
For cost estimate purposes, SDG&E assumed the following electric vehicle supply equipment (EVSE) counts. Generally, a one for one ratio, EVSE to electric vehicle, is assumed. Note that actual uptake by vehicle class will be customer driven.

- Class 2 – 3: 1200
- Class 4 – 5: 900
- Class 6: 300
- Class 7 – 8: 450
- On-route transit chargers: 10
- Forklifts and TRUs: 225 (capped)
- 3,085 EVSEs total for Program

Question 4: In SDG&E's testimony, Ch. 2 HJR-9, SDG&E states that "The scope and size of the Program is based on the number of commercial vehicles in SDG&E's service territory, fleet sizes

and California's goals." Please provide the analysis and workpapers that SDG&E used to determine the scope and size of its proposed MD/HD EV program.

SDG&E Response:
Analysis included an examination of California's goals such as those articulated in Senate Bill 350, Senate Bill 32, Executive Order B-32-15 and the California Sustainable Freight Action Plan. The last of which states: Transition to Zero Emission Technology Target - Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.

Most recently, an executive order set more ambitious goals. Executive Order B-48-18 orders that all State entities work with the private sector and all appropriate levels of government to put at least 5 million zero-emission vehicles on California roads by 2030.

SDG&E used the state's goals and the local commercial fleet population to determine the size of the program. SDG&E's annual license for the IHS/Polk Data has expired. Under the license agreement, SDG&E was required to dispose of the source data at the expiration of the license. However, SDG&E was allowed to retain information derived from the source data.

IHS/Polk Data - Derived from Source Data

Commercial Vehicles in SDG&E Service Territory
June 2016 Registrations

Class	
1	49096
2	68068
3	6837
4	4825
5	4168
6	5176
7	2899
8	11142
TOTAL	152211

Class 2 - 8 **103115**

Question 5: In SDG&E's testimony, Ch. 3 DMG-8, SDG&E states that it "will utilize a scheduling software platform to coordinate the scheduling of V2G operations with the CAISO."

How does SDG&E plan to allocate any revenues generated by bidding the aggregated load of its proposed V2G pilot?

SDG&E Response:
Revenues generated through the Vehicle to Grid Electric School Bus Pilot ("V2G Pilot or Pilot") from bidding into the California Independent System Operator ("CAISO") energy markets will be captured in a balancing account and used to offset Pilot cost to ratepayers.

Question 6: In SDG&E's testimony, Ch. 3 DMG-13, SDG&E states that "The addition of a CAISO revenue stream can further benefit the total cost of ownership ("TCO") for school districts making potential future programs more scalable." Does SDG&E have an estimate of the CAISO revenue that will be generated over the course of the V2G Pilot? If so, please provide that estimate.

SDG&E Response:
No, SDG&E does not have an estimate of the California Independent System Operator ("CAISO") revenue that may be generated over the course of the Vehicle to Grid Electric School Bus Pilot ("V2G Pilot or Pilot"). The pilot will help determine what the revenue stream is. As stated on DMG-13, lines 5-7, "Furthermore, SDG&E will seek to determine the value of V2G as a potential revenue stream. A revenue stream may help expedite the conversion of school district fleets to electric."

Question 7: In SDG&E's testimony, Ch.2 HJR-16-17, SDG&E states that it will require participants to submit a load management plan. a. What specific requirements does SDG&E have for participant load management plans? b. How does SDG&E plan to make consistent those requirements amongst all of its participants?

SDG&E Response:
The load management plans focus on the end result rather than specific content included in the plan. The intent is to allow flexibility and innovation in creating the load management plan. The plan will include methods and processes to reduce impacts to the distribution grid. This can include price signals through the electric rate selected, automation, physical acts such as unplugging vehicles and other strategies. SDG&E believes that creating a load management plan allows the program participant to take into account how their charging behavior impacts the distribution grid, their utility bill, and affects the operation of their business.