UCAN's Data Request #1

A.14-04-014

1. Throughout the testimony of J. C. Martin, he mentions meeting zero-emission vehicles policy goals. Is it true that most of the vehicles that will be added to the EV fleet will most likely be "hybrids" (dual fuel vehicles) and not literally zero emission (or all electric) vehicles?

    a. Do hybrids qualify toward meeting the State's zero emission policy goals?

2. In your forecast of EV adoption, how many Zero Emission Vehicles (ZEV) are assumed to be (1) battery electric, (2) fuel cell and (3) plug-in hybrid vehicles?

    a. How does each of these vehicle types count toward meeting the State's ZEV policy goals?
    b. Do the differences in these technologies influence the benefit/cost results?
    c. How did you decide how much of each type of vehicle would be purchased in your EV adoption assumption?
    d. Do these different types of ZEV have different charging profiles, i.e., energy usage profiles?
    e. Do they influence the State's achievement of ZEV policy goals if the mix of ZEV vehicles varies from what SDG&E assumed?
    f. How does that affect the overall benefit/cost results if the mix varies?

3. What fraction of electric vehicles induced by the development of these utility-owned charging stations does the utility expect will actually be zero emission vehicles?

4. What are the range and speed of zero emission vehicles compared to then range and speed of hybrid electric vehicles?

5. What is the State policy goal for Low Emission Vehicles (LEV) versus ZEV over the near to long term?

    J. C. Martin states: "SDG&E assumed four incremental EV purchases due to each MuD VGI Pilot Program installation and eight incremental EV purchases due to each workplace VGI installation."(J. C. Martin VGI Testimony, JCM-17) "EV adoption due to the presence of workplace and MuD charging is a hypothesis to be tested by SDG&E's VGI Pilot Program." (J. C. Martin VGI Testimony, JCM-17, FN 11)

    Given that the assumption being used to determine cost effectiveness will be verified in the VGI study after the fact, it suggests that the cost effectiveness results are speculative based on an assumption rather than a range of assumptions regarding the number of EV purchases per MuD and workplace VGI installation.

6. Please provide the cost effectiveness results assuming EV purchases are reduced as follows:
    a. (1) **TWO** incremental EV purchases due to <u>each MuD</u> VGI Pilot Program installation and **FOUR** incremental EV purchases due to <u>each workplace</u> VGI installation and

b. **ONE** incremental EV purchases due to each MuD VGI Pilot Program installation and **TWO** incremental EV purchases due to each workplace VGI installation.

(NOTE: This reduces the SDG&E assumption in (1) by 50 percent and in (2) by 75 percent with the goal of determining how sensitive the positive cost effectiveness results are to the EV adoption assumptions).

7. In this VGI example, the RIM test reveals a large level of revenues from these charging stations from participants that overshadows the capital costs and electric supply costs that must be paid by all other non-participating ratepayers. Under the revised assumptions in question 6 (a) and (b) above about EV adoption, if the RIM test fails, what is SDG&E's position on pursuing this project?

8. Using the four tests, i.e., the RIM, PCT, TRC, and SCT, how does SDG&E decide whether to pursue a program when one or more tests fail?

   a. Which tests are the most critical?
   b. How would SDG&E propose revising the VGI program if one or more of the tests failed especially the RIM or PCT test?

9. In Table 6-12 of J. C. Martin's testimony (JCM-34), the Rate Impact Measure (RIM) and the Participants Test (PCT) show the offsetting values: increased revenues for the utility under the RIM test and equally higher utility bills under the PCT. There are no other Benefits identified in the RIM test. This means that the Participants are responsible for all the benefits of the program which exceed the increase electric supply costs and cost of the charging stations paid for by all customers, including both participants and non-participants.

   a. Is this result entirely dependent upon the EV adoption assumption by SDG&E?
   b. Are there any other costs or benefits assumptions that are driving the RIM and PCT results?

10. Using the same 1:2 ratio of MuD to Workplace VGI installations, please calculate the breakeven point where the NPV for each of the four tests equals zero, i.e., where benefit/cost =1.

11. Has SDG&E surveyed the public sector, e.g. the City and County of San Diego and the State of California to determine their long-term plans for building electric vehicle charging stations over the next 10-20 years?

    a. If yes, please explain findings
    b. If no, please explain why not

    Has SDG&E obtained any forecasts of the private sector's expected development of EV charging stations over the near term and long term

a. If so, please quantify what you learned from those long-term capital investment plans and indicate how you factored those plans into your needs assessment for additional charging stations in San Diego?
b. If not, please explain why not.

12. How did SDG&E determine the number of charging stations to build?

13. Has SDG&E considered a joint public-private partnership with the public sector in developing the electric vehicle infrastructure that does not place the entire capital cost burden on SDG&E ratepayers?

14. Do IOUs, the public sector or private companies have a competitive advantage in building, owing and operating EV charging stations in terms of costs, tax advantages or locational advantages over any of the other two charging station ownership options

15. Does combining the ownership option, i.e., SDG&E versus non-utility charging station owners, with the pricing pilot, unnecessarily complicate the cost effectiveness results?

16. Is the VGI pilot rate only available to EV owners who use SDG&E charging stations whereas commercial charging station owners purchase power under AL-TOU?

17. Please explain the differences between SDG&E's proposed VGI rates for Electric Vehicles and the AL-TOU rate that commercial EV charging station owners pay.

18. Is it possible to separate or isolate the pricing pilot results from the ownership of the EV charging station?

19. What other rate options might be available to other non-utility owners of electric vehicle charging stations other than AL-TOU ?

20. Does SDG&E view itself as competitors to these non-utility charging station owners in the private sector?

    a. If so, why?
    b. If not, why not?

21. What research has SDG&E done about the state of the private Electric Vehicle Charging market in San Diego,? I.e. growth rates, number of stations being developed yearly, amount of funding committed to installation of EV stations, building permits issued?

22. Has SDG&E conducted any research to suggest stagnant growth in San Diego's EV charging market ? If so, please provide that research.

23. What is the growth rate of the EV charging market in San Diego County projected to be in the next 5, 10 and 20 years for Multi-family dwelling units? For employment based chargers?

24. Does SDG&E have evidence that there is Market failure for the private EV charging market in San Diego?

    a. If so, how does SDG& E define "Market Failure"?
    b. If so, please detail the evidence leading SDG&E to that conclusion.

25. Has SDG&E conducted any research or reviewed any studies to indicate that the EV market in San Diego is not developing due to lack of Charging Stations?

26. Has SDG&E conducted any research, reviewed any findings or studies that suggest a customer's decision to purchase or not to purchase an EV in San Diego was influenced by lack of access to charging stations in the county?

27. What is the average distance EV owners have to travel to charge their vehicles in San Diego County?

28. How much does it presently cost, in the San Diego market, for an EV

29. How much does it presently cost, in the San Diego market, for an EV owner to charge their vehicle per hour using a commercial EV charger?

30. Does the median income of the community factor into SDG&E's analysis on how many electric vehicles owners would use the SDG&E's EV charging stations should they be installed, i.e. La Jolla as compared with National City or Escondido?

31. Has SDG&E determined how many new EV purchases will be made in low income communities if EV charging stations are installed.

32. Has SDG&E committed to installing EV charging stations in low income communities?

    a. If so, what percentage of the total has SDG&E committed to?