ORA DATA REQUEST
ORA-SDG&E-DR-07
SDG&E VEHICLE GRID INTEGRATION PROJECT
A.14-04-014
SDG&E RESPONSE
DATE RECEIVED: OCTOBER 6, 2014
DATE RESPONDED: OCTOBER 16, 2014

QUESTION #1

In response to ORA's data request #3, question 1, SDG&E provided the following response partially quoted below:

> "….. 550 VGI facilities of 10 charging stations each at host sites may not provide a statistically valid sample of all the circuits, because some circuits may have more than one VGI facility installation and other circuits may not have any. But it is expected that this volume of VGI sites (550) installed across system circuits will allow SDG&E to gather enough data from enough circuits to create a sufficient representation of circuit-specific performance, as well as customer charging behavior by circuit…."

Please provide any studies that SDG&E conducted (or were conducted for SDG&E), that led SDG&E to conclude that "550 VGI facilities of 10 charging stations each at host sites may not provide a statistically valid sample" of all its circuits. Please provide all supporting workpapers for this study.
If the study was conducted for a different project please indicate why it is applicable to the number of chargers in SDG&E's proposed VGI program.
If the proposed total number of chargers were not based on statistical studies, provide the reason why, and indicate if you are able to conduct such study. If so, please provide an estimate on when this study can be ready to review.

SDG&E Response:

Please see the attached Microsoft Excel Workbook study:
VGI_Sample_Error_Calculations_(ORA-SDG&E-DR-07).xlsx

The worksheet titled "Sample Error Calculations" show sample errors calculated for a varying number of total VGI systems, Pilot Charger Utilizations, Sample Frame Cells, and Confidence Levels. Two generally accepted statistical power goals for sampling are either 95% confidence levels and 5% margin of error (95/5), or 90% confidence level and 10% margin of error (90/10).[1] The results in the worksheet indicate the 95/5 power cannot be achieved even with high (2.0) charger utilization and a low (30) cell sample frame of distribution circuits. The 90/10 power

[1] See Load Research Manual, 2nd ed., Association of Edison Illuminating Companies, (2001) p. 4-4 "A design accuracy of +/- 10% at the 90% confidence level at the system and class peak time was specified in 1978 by PURP for all major rate classes. Although these federal standards were lifted in 1992, the PURPA specification remains somewhat of a load research standard, particularly for samples that will be used to support rate cases or other regulatory requirements."

Response to Question 1 (Continued)

can be achieved with a sample of 550 VGI Systems even with a low (0.5) charger utilization rate.[2]

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alculations_(ORA-SDG

[2] This is the same charger utilization rate of 0.5 per day as ORA requested in sensitivity runs for ORA-SDG&E-DR-006, request 1.c (9/16/2014).