**A.14-11-003 and A.14-11-004 Sempra Utilities’ 2016 TY GRC**

**TURN Data Request**

**Data Request Number:** TURN-SDG&E-5 (Electric Distribution Capital)

**Date Sent:** April 2, 2015

**Response Due:** April 16, 2015

Please provide an electronic response to the following questions. 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:

|  |  |  |  |
| --- | --- | --- | --- |
| Marcel Hawiger  The Utility Reform Network  785 Market Street, Suite 1400  San Francisco, CA 94103  [marcel@turn.org](mailto:marcel@turn.org) | Bob Finkelstein  The Utility Reform Network  785 Market Street, Suite 1400  San Francisco, CA 94103  [bfinkelstein@turn.org](mailto:bfinkelstein@turn.org) | Eric Borden  The Utility Reform Network  785 Market Street, Suite 1400  San Francisco, CA 94103  [eborden@turn.org](mailto:eborden@turn.org) |  |

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 Sempra Utilities 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 Sempra Utilities’ possession.

1. SDG&E-09 (Jenkins), pp. JDJ-4 and 5, lists various criteria for electric distribution project spending, including maximum equipment loading percentages. The “New Business” and “Capacity” categories describe correction of equipment loadings when load reaches 100% (for major new business load), 100% (due to area load growth) and above 90% (“where highly loaded equipment…will adversely impact operations and reliability”).
2. How are these percentages calculated? Please identify the peak load standard that is used for the numerator, and explain its derivation.
3. Please provide a sample calculation clearly defining the inputs for the numerator and denominator of this percentage. Please explain what historical or estimated data set(s), including at a minimum the number of years, are used to calculate the percentages.
4. Please explain, with supporting documents or analyses, the bases for choosing the 100% or 90% loading criteria.
5. Please explain the spending decisions triggered by the 90% criterion.
6. Please provide the actual peak load calculations in Excel and relevant workpapers for each of the following distribution capital projects discussed in chapter 9 (Jenkins) for - 1) Mira Sorrento 138/12KV Substation, 2) Salt Creek Substation, 3) Telegraph Canyon – 138/12kV Bank & C1226, 4) C917, CC: New 12kV Circuit and 5) C1049, CSW: New 12kV Circuit. In addition, for each project please explain in detail how existing and forecasted distributed generation were taken into account when calculating future peak load.
7. SDG&E-09 (Jenkins), p. JDJ-27, lists capacity/expansion projects and related expenditures.
   1. Which of these projects have some amount of distributed solar generation on circuits for which SDG&E forecasts capital expenditures in this GRC?
   2. Please provide the known installed capacity of solar DG for each circuit or substation included in the Table.
8. SDG&E-09 (Jenkins), p. JDJ-15, lines 24-26, states that distributed generation “is assumed to provide zero output at peak for distribution capacity evaluations.”
9. Is distributed solar generation accounted for in any way when determining distribution capital expenditure forecasts for this GRC? If so, please explain in detail how it is accounted for in determining the forecasts.
10. Does SDG&E model load impacts of distributed solar generation using load-flow modeling or another technique? If so, please identify and explain the modeling technique and provide the results of that modeling.
11. How does SDG&E consider distributed resources as an alternative to traditional distribution equipment upgrades?
12. Please explain in detail why SDG&E makes the assumption described in its testimony. Please also provide any studies or analyses SDG&E has conducted to determine that distributed solar provides “zero output at peak,” or that an assumption of zero is appropriate for distribution planning purposes.
13. SDG&E-09 (Jenkins), p. JDJ-15, lines 24-26, states that distributed generation “is assumed to provide zero output at peak for distribution capacity evaluations.” If no study or data analysis has been performed to support that assumption, please perform an analysis that estimates, based on actual load-flow data at the circuit level in SDG&E’s system, what percentage of distributed solar nameplate capacity contributes to reducing peak load on a circuit. TURN does not intend that all circuits be analyzed, rather a representative sample. This may include residential/commercial/industrial circuits and circuits with multiple types of load profiles. Results should be typical of the entire system and differentiated to provide percentage values for each type of circuit. For instance, no one type of circuit should be unnecessarily over-emphasized such that it could influence any “average” result that is calculated.
14. Assuming existing distributed solar generation reduces peak load by 25% of nameplate capacity, please estimate the impact on distribution capital expenditures for the following projects listed on p. JDJ-27: 1) Mira Sorrento 138/12KV Substation, 2) Salt Creek Substation, 3) Telegraph Canyon – 138/12kV Bank & C1226, 4) C917, CC: New 12kV Circuit and 5) C1049, CSW: New 12kV Circuit
15. In its 2015 test year rate case, SCE conducted an analysis that found that distributed solar generation contributes 2%-17% of nameplate capacity to peak load between noon and 5 p.m. See attached excerpt from Exhibit SCE-03, v. 3 at pp.12-13.
    1. Was SDG&E previously aware of this analysis or similar analyses?
    2. Has SDG&E conducted any similar analysis on its system? If not, why not?
16. SDG&E-09 (Jenkins), p. JDJ-27, Table 3, summarizes distribution expenditures on a project level basis. Related to 1) Mira Sorrento 138/12KV Substation, 2) Salt Creek Substation, 3) Telegraph Canyon – 138/12kV Bank & C1226, 4) C917, CC: New 12kV Circuit and 5) C1049, CSW: New 12kV Circuit, please provide the following information:
17. 10 year (2004-2013) historical peak load data for the project on an annual basis. Please also provide the peak load capacity of equipment requested for distribution capital expenditure for the 5 projects listed above. Next, please calculate the percentage of peak load reached on an annual basis for equipment requested for distribution capital expenditure.
18. Forecasted load on equipment underlying SDG&E’s GRC forecast of distribution capital expenditure and indication of what year equipment would be overloaded (over 90% or 100%) of capacity.
19. Amount of distributed solar generation impacting the circuit or substation for each project (in Megawatt (MW) and Megawatt hours (MWh) capacity for each historical year (2004-2013)).
20. The forecasted amount over the next 10 years of distributed solar generation in MW and MWh expected to affect load on equipment underlying SDG&E’s GRC forecast of distribution capital expenditure. If forecasts over the next 10 years are not available or would be unduly burdensome to produce, please provide forecasts extending as far into the future as are available or would not be unduly burdensome to produce.