

UCAN's Seventh Set of Data Requests

A.06-08-010

Data Requests re Chapters II and III of SDG&E's 8/4/06 filing

1. Chapter II states (p. II-3) that SWPL was built in 1983. Please provide the normal and emergency ratings, in MVA, of each SWPL segment:

- a. In 1983.
- b. At present.
- c. After any planned future upgrades, indicating the date and nature of those upgrades.

2. Chapter II states (p. II-3) that imports from CFE "are not counted for reliability planning" since "CFE and IID are not part of the CAISO control area."

a. Please provide any documents stating that imports from another control area may not be counted for reliability planning within the CAISO control area.

b. Is it SDG&E's position that imports over SWPL from the Palo Verde area may not be counted for reliability purposes, since the Palo Verde area is not part of the CAISO control area?

c. Is it SDG&E's position that SCE's ownership shares of the Four Corners 4-5 powerplant may not be counted for SCE reliability purposes, since Four Corners 4-5 are located outside of the CAISO control area?

3. Chapter II cites (p. II-3, fn. 4) the "CAISO's April 16th, 2004 Grid Planning Assumptions document."

a. Is it SDG&E's position that the cited document sets planning requirements which SDG&E is obligated to follow?

b. The cited CAISO document lists the Mohave coal plant along with South Bay 1-4 as planned retirements (CAISO, 4/16/04 document, Table B-2, last two lines). Did SDG&E assume the Mohave coal plant was retired in its 8/4/06 analyses, including its Gridview modeling?

c. Did SDG&E assume the Mohave coal plant was retired its analyses underlying its 12/05 filings in this proceeding, including its Gridview modeling?

d. The cited CAISO document states that in "5-year Planning Cases...only generation that is under construction (Level 1) should be modeled" (CAISO, 4/16/04 document, section A, item 2). Please list each generator inside or outside of California included in any of SDG&E's power flow modeling for the year 2010, including its Gridview modeling and

the Gridview modeling underlying Appendix I-1 to Mr. Avery's testimony, which is not yet under construction.

e. The cited CAISO document states that in "10-year Planning Cases ...only generation that is under construction or has received regulatory approval (levels 1 and 2) should be modeled in the area of interest ... (CAISO, 4/16/04 document, Section A, item 3). Please list each generator inside or outside of California included in any of SDG&E's power flow modeling for the year 2015, including its Gridview modeling and the Gridview modeling underlying Appendix I-1 to Mr. Avery's testimony, which has not yet received regulatory approval.

f. The cited CAISO document states that in "10-year Planning Cases ...if additional generation is required to achieve an acceptable initial power flow case, then generation from Levels 3, 4, and 5 can be used but only if they are outside the area of study so that their impact on the facility addition requirements will be minimized."(CAISO, 4/16/04 document, Section A, item 3).

g. What does SDG&E understand the word "acceptable" to mean as used by the CAISO?

h. What does SDG&E understand the term "area of study" for the Sunrise project?

i. What does SDG&E understand the area referred to by the term "desert Southwest" on p. IV-46?

j. Please provide updated versions of Tables IV-2, VI-6 and IV-8 in which the underlying Gridview modeling excludes all new powerplants in 2010 which are located in the "area of study" that are not yet under construction and all new powerplants in 2015 which are located in the "area of study" and do not yet have regulatory approvals. (Please note that to the extent this data request requires new Gridview modeling, SDG&E has previously agreed in a data request response to perform Gridview modeling at UCAN's request).

k. To confirm that impacts from Level 3, 4, and 5 generation have in fact been "minimized", please provide updated versions of Tables IV-2, VI-6 and IV-8 in which the underlying Gridview modeling excludes all new powerplants in 2010 which are located in or out of the "area of study" that are not yet under construction and all new powerplants in 2015 which are located in or out of the "area of study" and do not yet have regulatory approvals. (Please note that to the extent this data request requires new Gridview modeling, SDG&E has previously agreed in a data request response to perform Gridview modeling at UCAN's request).

4. Chapter II states the SIL rating of 2850 Mw was “rated by SDG&E” (p. II-4).

- a. When did SIL rate the SIL at 2850 Mw?
- b. Please provide the studies which were the basis for the 2850 Mw rating, and any SDG&E or CAISO documents in your possession describing the increase in SIL to 2850 Mw from its previous level.
- c. Please provide any documents in your possession requesting or granting approval of an increase in the SIL to the 2850 Mw level from a lower level.
- d. Please describe the role of the CAISO, if any, in establishing the 2850 Mw SIL rating.

5. Chapter II asserts that Sunrise will allow the SIL to increase to 4200 Mw (p. II-5). Please provide any studies, analysis, or other evidence that SDG&E will be able to import 4200 Mw under N-0 conditions with the Sunrise project in service.

6. Chapter II asserts that the G-1/N-1 event, starting in 2009, will be an overlapping outage of the Otay Mesa plant and the Imperial Valley-Miguel segment of SWPL (p. II-6).

- a. What is the expected forced outage rate of each of the Otay Mesa power plant CTs?
- b. What is the expected forced outage rate of the Otay Mesa HRSG?
- c. What is the expected forced outage rate of the Otay Mesa steam turbine?
- d. What is the expected number of hours per year that 100% of the Otay Mesa plant will be out of service due to forced outage(s)?
- e. If the answers to the preceding parts of this question vary in a predictable manner by year, or by month or season, or by load level, please provide separate forecasts of SDG&E’s expectations for the years 2010 and 2015, for each month or season of the year, and/or for on-peak and off-peak time periods, as applicable.

7. Chapter II asserts that Sunrise “pays for itself.” Please describe what:

- a. mechanism(s) can be adopted in this proceeding to assure CAISO-area ratepayers in 2010-2050 that the Sunrise capital and O&M costs (costs that they will definitely pay if Sunrise is built) are being more than offset by real (not just forecasted) reductions in other costs that they pay.

- b. steps SDG&E will take for CAISO-area ratepayers in the event that, after construction of the line, the Sunrise capital and O&M costs turn out NOT to be offset by real (not just forecasted) reductions in other costs that they pay.

8. Chapter II asserts that “it is reasonable to believe that the older less efficient power plants will retire within the 10 year planning horizon.” (p. II-13).

- a. Does **SDG&E** believe “that the older less efficient power plants will retire within the 10 year planning horizon.”

- b. Does SDG&E believe “that the older less efficient power plants will retire within the 10 year planning horizon” without new generation being built at the existing sites?

c. On what basis does SDG&E believe that any “older less efficient” powerplants **which are profitable** will be retired?

d. What are SDG&E’s forecasted values for the average LMP at the South Bay bus (or the electrically nearest bus for which LMP data was calculated in Gridview) in each of the years 2010 and 2015, in the Gridview analyses for each of Cases 100, 101, and 104, for:

- i. All hours of the year averaged together
- ii. The highest 50% of the hourly LMPs during the year
- iii. The highest 10% of the hourly LMPs during the year

e. What are SDG&E’s forecasted costs per Mwh for fuel for each of the South Bay units for 2010 and for 2015?

f. What are SDG&E’s forecasted fixed costs for each of the South Bay units for each of the years 2010 and 2015.

g. What are SDG&E’s forecasted values for the average LMP at the Encina Powerplant bus (or the electrically nearest bus for which LMP data was calculated in Gridview) in each of the years 2010 and 2015, in the Gridview analyses for each of Cases 100, 101, and 104, for:

- i. All hours of the year averaged together
- ii. The highest 50% of the hourly LMPs during the year
- iii. The highest 10% of the hourly LMPs during the year

h. What are SDG&E’s forecasted costs per Mwh for fuel for each of the Encina units for 2010 and for 2015?

i. What are SDG&E’s forecasted fixed costs for each of the Encina units for each of the years 2010 and 2015.

9. Chapter II predicts a “flood of efficient combined cycle units on the horizon” (p. II-14). Appendix IV lists 37 WECC additions by 2010 as “Combined Cycle” and 15 more by 2015 (Tables IV-11, -12, -13).

a. Are the units listed in Appendix IV the “flood of combined cycle units on the horizon” referred to in Chapter II, or does SDG&E expect other combined cycles in addition to those listed in Appendix IV?

b. Please identify with specificity which of the combined cycle units listed in Tables IV-11, -12, and -13 as “WECC Generation Additions” are already operating (e.g., “MTNVW” and “Cosumnes” in California, Santan in Arizona, etc.)?

c. Please identify with specificity which of the “Combined Cycle” units listed in Tables IV-11, -12, and -13 are not actually combined cycle units at all (e.g., “Rawhide GT 5”)?

d. Please identify with specificity which of the “Combined Cycle” units listed in Tables IV-11, -12, and -13 as operating by 2010 are not yet under construction?

e. Please identify with specificity which of the “Combined Cycle” units listed in Tables IV-11, -12, and -13 as operating by 2015 have not yet received regulatory approval?

f. Please describe all actions taken by SDG&E to verify the accuracy and likelihood of the WECC generation additions listed in Tables IV-11, -12, and -13, and provide any resulting documents or other records of SDG&E’s verification actions.

10. SDG&E predicts there will be “little room for inefficient boiler-fired generation” (p. II-14). What are the predicted capacity factors for each of the Encina generators in each of the years 2010 and 2015 in SDG&E’s Gridview modeling for cases 100, 101, and 104, and in SDG&E’s previous Gridview modeling in cases 0, 1, 2, and 3.

11. SDG&E asserts that “Future Merchant Generation is Speculative and Can Not Be Counted On For 2010” (p. II-14), and “future merchant generation is speculative and cannot be counted on to be on-line in 2010, if at all (p. II-16).

a. How many Mw of the WECC generation included in SDG&E’s Gridview cases 100 and 101 consists of “Future Merchant Generation” – i.e., merchant generation which is not in commercial operation as of mid-2006?

b. Please list the name, location (by state), Mw size, and expected on line date of each not-yet-operational merchant generator included in SDG&E’s Gridview modeling for Cases 100 and 101.

12. Please provide powerflow diagrams for both 2010 and 2015 under 90/10 peak load conditions with Otay Mesa out of service for the situation described in the last full sentence on p. II-17, showing (for, at a minimum, all 130 kV and above facilities in SP26 and northern Baja California):

a. Flows and facility loading percentages relative to normal ratings, under N-0 conditions.

b. Flows and facility loading percentages relative to emergency ratings, under N-1 conditions after “the outage of the Imperial Valley-Miguel 500 kV line.”

c. Flows and facility loading percentages relative to emergency ratings, under N-1 conditions after “the outage of the Imperial Valley-Miguel 500 kV line” and after the system has been “readjusted.”

d. Flows and facility loading percentages relative to emergency ratings, under N-1-1 conditions after “the outage of the Imperial Valley-Miguel 500 kV line” and after the system

has been “readjusted,” and after the subsequent “outage of the Imperial Valley 500 kV – Central 500 kV line.”

13. SDG&E asserts that Sunrise will “significantly increase the reliability of the overall SDG&E system” (p. II-18).

- a. For 2005, what were the overall SAIDI and SAIFI for the SDG&E system?
- b. For 2005, what were the transmission-related SAIDI and SAIFI for the SDG&E system?
- c. What is SDG&E’s best estimate of its transmission-related SAIDI and SAIFI in 2010 under Case 100 (no Sunrise, new CTs instead), Case 104 (no Sunrise, new CC instead), and Case 101 (Sunrise, no new internal generation)?

14. SDG&E asserts that Sunrise will improve “overall reliability to (sic) the Southern California grid.

- a. For 2005, what were the overall SAIDI and SAIFI for the SCE system?
- b. For 2005, what were the transmission-related SAIDI and SAIFI for the SCE system?
- c. What is SDG&E’s best estimate of SCE’s transmission-related SAIDI and SAIFI in 2010 under Case 100 (no Sunrise, new CTs instead), Case 104 (no Sunrise, new CC instead), and Case 101 (Sunrise, no new internal generation)?

15. SDG&E asserts on p. II-8 that “SWPL has a history of multiple outages. The majority of outages of the existing SWPL line have been due to brush fires which have occurred west of Mountain Springs Grade.”

a. Please reconcile this statement with SDG&E’s response to UCAN data request 1-15d, where less than half of the SWPL outages are listed with “Fire” as the cause, and some of the outages listed with “Fire” as the cause occurred east of Imperial Valley substation.

b. Please provide an updated response to UCAN data request 1-15a and b with full-year data for 2005.

c. Please provide an extended version of the response to UCAN data request 1-15d showing data for another 10 years in the past (1985-94) and the period from October 2005 to the present.

16. Chapter II discusses potential outage in the period leading up to July 26, 2006 (p. II-19). Please provide hourly SDG&E-area loads and imports for the period 7/15-7/26/06, inclusive.

17. The last resource listed on the first page of Table II-3 is the “Prima Deshecha” project, shown as 3.3 Mw in every year from 2006-16, inclusive. Table III-1 lists a 5 Mw Prima Deshecha contract expiring in 2008 and a 15 Mw Prima Deshecha contract with the same location and counterparty running from 2007 through 2012.

a. Please reconcile the Mw differences between the installed capacity shown in Table III-1 (which changes over time) and the peak capacity shown in Table II-3 (which never varies).

b. If the installed capacity figures in Table III-1 are correct, what should the corresponding August capacity figures in Table II-3 be for the Prima Deshecha project(s)?

18. Table III-1 lists a 4 Mw biomass contract for the years 2007-16, inclusive, which does not appear in Table II-3. Please identify what August capacity that SDG&E expects this project to provide?

19. The last page of Table II-3 indicates under the “Demand Reduction Items” heading that “Committed Programs,” “Uncommitted Programs based on a 5% DRP Goal” and “Additional on-peak contribution of Automated Metering Infrastructure (AMI)” are each a “NO” in terms of being counted in Table II-3. Please provide a revised Table II-3 with the 2006-2016 values that would have been used if the “NO” was a “YES” for each of these three line items.

20. Table III-1 as supplied by SDG&E to UCAN consists of only one page and only appears to include three of the five sections described in the text on pp. III-14 and III-15. Please supply the missing portions of Table III-1, or reconcile the text description with what has been supplied.

21. There is no part of Chapter III, as distributed to UCAN, labeled “Appendix,” despite the reference on p. III-14 to an Appendix. Please supply the Appendix to Chapter III insofar as it consists of more than one page of Table III-1.

22. SDG&E explains that four “economically attractive” wind projects in eastern San Diego County from its 2004 RFO became uneconomic and “were eliminated from further consideration” when the cost of transmission needed to “accommodate the delivery from the four proposed bidders” was added to their bids (p. III-3).

a. Please state whether Sunrise is needed to “accommodate the delivery” of Sterling generation?

b. Please state whether Sunrise is needed to “accommodate the delivery” of Esmerelda generation

c. Please state whether Sunrise is needed to “accommodate the delivery” of the ¼ of SDG&E 2005 Renewable RFO short-list generation located in the Imperial Valley (p. III-5; 3% out of 12% is ¼)?

d. Please provide a quantitative analysis showing whether the Stirling project is “economically attractive” if the cost of Sunrise is added to its cost.

e. Please provide a quantitative analysis showing whether the Esmerelda project is “economically attractive” if the cost of Sunrise is added to its cost.

f. Please provide a quantitative analysis showing whether the 2005 RFO short list project(s) located in the Imperial Valley remain “economically attractive” if the cost of Sunrise is added to its (their) cost.

23. Please describe the nature and anticipated cost of each of the “alternative means of accessing wind resources in the eastern portion of San Diego County” referred to on p. III-4.

24. The text of Chapter III says that currently executed contracts would provide 13.2% of the 20% 2010 renewable goal (p. III-5), but Table III-1 lists projects totaling only 12.24%. Please reconcile the difference.

25. Confidential footnote 6 on p. III-6 refers to short-listed projects in the Imperial Valley from SDG&E’s 2005 RFO. For each Imperial Valley project on the 2005 RFO short-list, please provide:

- a. Name
- b. Installed capacity in Mw
- c. Firm August capacity in Mw
- d. Expected annual generation in gwh
- e. Expected price at point of delivery to SDG&E
- f. Expected delivery point
- g. Expected on-line date

26. SDG&E says that it has signed two renewable energy contracts “that require Commission approval.” (p. III-9). One appears to be the Esmerelda project (p. III-11).

a. Please confirm that Esmerelda is one of the two projects referred to on p. III-9.

b. Please identify and describe the other project referred to on p. 9, giving its name, installed capacity, expected firm summer capacity, expected annual generation, expected delivery point and price at that point, and expected on-line date.

27. Please provide the calculations underlying the “55%” figure on the third line from the bottom of p. III-10.

28. Please provide a detailed summary of the 2006 RFO responses due to SDG&E on 9/1/06, as referenced on p. III-10, fn. 12.

29. Chapter III describes SDG&E’s contract with Stirling Energy Systems (p. III-11). Please provide a copy of the SDG&E-Stirling contract as approved by the CPUC.

30. Please describe how many gwh of Stirling generation SDG&E expects to receive in each of the years 2008-2015.

31. Please explain the basis for the expected generation percentages for Stirling Phases I and II shown on the last line of p. III-11 and (confidentially) on the first line of p. III-12.

32. SDG&E “anticipates issuing a long-term all-source RFO later this year that would seek energy and capacity products for the 2010 timeframe and beyond.” (p. III-13).

- a. In which month “later this year” does SDG&E expect to issue this RFO?
- b. When does SDG&E expect to receive responses to this RFO?
- c. How many Mw and gwh/year does SDG&E anticipate seeking in this RFO for delivery by 2010?
- d. How many overall Mw and gwh/year does SDG&E anticipate seeking in this RFO?
- e. Please provide copies of any communications between SDG&E and its PRG regarding either the 2005 renewable energy RFO, the 2006 renewable energy RFO, the 2007-09 capacity RFO issued earlier this year, or the forthcoming long-term all-source RFO.

33. SDG&E says that it “evaluates the cost of congestion and transmission upgrades for each of its offers and includes those costs in its least cost best fit analysis” (p. III-14). Please provide any documents in SDG&E’s possession describing the “cost of congestion and transmission upgrades” for:

- a. Stirling Phase I
- b. Stirling Phase II
- c. Stirling Phase III
- d. Esmerelda
- e. Each Imperial Valley project on the short-list from SDG&E’s 2005 renewable resource RFO (including but not limited to projects referenced confidentially in fn. 6 on p. III-6 and projects proposed by the “several” developers referred to on p. III-12).

34. SDG&E indicates that “new wind production in the Tehachapi area” could be affected by transmission development (p. III-14). What assumptions did SDG&E make about “the cost of congestion and transmission upgrades” in its analysis of the 206 Mw Pacific Wind project in Tehachapi (as listed in Table III-1).

35. SDG&E says that Table III-1 was developed “presuming the Sunrise Powerlink is constructed and operational by 2010” (p. III-14). Please provide a revised Table III-1 presuming that the Sunrise Powerlink is not constructed and operational by 2010, and explain in detail each difference from the existing Table III-1.

36. SDG&E asserts that there is a “high likelihood of prohibitively costly congestion” without Sunrise (p. III-15). In regards to that statement:

- a. Please provide the average LMPs at Imperial Valley substation, Miguel substation, and Sycamore Canyon station in each of the years 2010 and 2015, for each of cases 0,1, 2, and 3 (from SDG&E’s 12/05 filing) and cases 100, 101, and 104 (from SDG&E’s 8/4/06 filing) as computed using the Gridview model.

- b. Please provide the average congestion cost for generation delivered from the Imperial Valley to the CAISO in Gridview Cases 0, 1, 2, 3, 100, 101, and 104.

37. For each of the years 2010 and 2015, for each of the resources listed on Table III-1, please provide the expected firm August capacity in Mw, and the expected annual generation in gwh.

38. For each of the years 2010 and 2015, for each of the resources on SDG&E's short-list from its 2005 renewable resource RFO, please provide the expected firm August capacity in Mw, and the expected annual generation in gwh.

Data Requests re pertaining to Chapter IV

39. In the Gridview modeling underlying cases 00, 1, 2, and 3 (for the December 2005 filing) and cases 100, 101, and 104 (for the August 2006 filing), what forced outage rate and scheduled outage rate assumptions were made for:

- a. Each 500 KV transmission line located wholly or partially within the CAISO controlled grid?
- b. Other 500 KV transmission lines within the WECC?

40. With regard to Gridview Cases 102, 103, and 105:

- a. Please describe each of those cases
- b. Please provide the results for those cases.
- c. To the extent analysis of those cases was not completed, provide the most recent preliminary results.
- d. Please provide any documents in SDG&E's possession describing those cases and/or work done on those cases and/or results of work done on those cases.

41. SDG&E's 8/30/06 submission to the CPUC in R.05-12-013 entitled "R05-12-013 Response of SDG&E To The Assigned Commissioner's Ruling.pdf" discusses planned increases in SDG&E-owned generation and SDG&E-implemented demand response measures, as well as 2006 generation performance. Please provide any documents in SDG&E's performance from June 2006 or later which address:

- a. Planned or potential SDG&E generation additions in 2007-08.
- b. Planned or potential SDG&E demand response additions in 2007-08.
- c. Performance of SDG&E-area generation in July 2006.
- d. The potential of the approach called "Mexico Light" in Appendix I-1 to provide emergency capacity to the San Diego area when the Imperial Valley-Miguel segment of SWPL is out of service.

42. Table II-3 lists total SDG&E August capacity for 2007 as 2920.6 Mw (top of 4th page of the table). However, the CAISO reports 2007 SDG&E area capacity as 2932 Mw. (<http://www.caiso.com/1863/1863914e14390.pdf>, p. 12). Please identify the source(s) of this discrepancy.

43. Table II-3 shows the amount of demand response “Committed Programs” which the “CAISO counts for 90/10 peak load reliability assessments” as 0 Mw in all years (Table II-3, 4th page of table, “Committed Programs” line). However, the CAISO actually states that “SDG&E has dispatchable demand side management programs, which can reduce the generation requirement up to 29 Mw for year 2007.”
(<http://www.caiso.com/1863/1863914e14390.pdf>, Appendix B, p. 40)
- a. Please describe SDG&E’s understanding of the specific programs the CAISO is referring to, and provide SDG&E’s evaluation of the Mw of demand reduction each program will provide in each of the years 2007 and 2010-2016, inclusive.
 - b. Please identify and provide relevant excerpts of SDG&E’s most recent filings with the CPUC describing its demand reduction programs and their expected peak demand reductions in each of the years 2007-16, inclusive. To the extent that different SDG&E filings describe different years, provide all filings necessary to cover the period 2007-16.
 - c. Please indicate SDG&E’s basis for agreeing or disagreeing, as the case may be, with the CAISO’s statement that SDG&E has demand reduction programs available for 2007 that will reduce peak demand by 29 Mw.
 - d. For the demand response programs which the CAISO says will be able to reduce demand by 29 Mw in 2007, how many Mw does SDG&E expect those programs to be able to reduce demand in each of the years 2008-16?
44. Please provide an unredacted version of SDG&E’s advice letter 1745-E-A filing, including any attachments and the workpapers underlying the advice letter.
45. Please provide a table listing each of SDG&E’s expected summer RA resources (name, Mw size, and county in which it is located) for each of the years 2010-2015, to the extent currently known or forecasted, if:
- a. Case 100 occurs
 - b. Case 101 occurs
 - c. Case 104 occurs
46. SDG&E estimates that Sunrise will increase NSIL by 1350 Mw to 4200 Mw, and SIL by 1000 Mw to 3500 Mw. Please identify what the increases in NSIL and SIL would be for each of the following:
- a. Sunrise without the Sycamore Canyon-Penasquitos 230 KV line.
 - b. Sunrise without one of the two Central-Sycamore Canyon 230 KV lines.
 - c. Sunrise with the 500 KV line conductor sized for an emergency rating of 2200 MVA.

- d. Sunrise with the 500 KV line conductor sized for an emergency rating of 2200 MVA, and also no Sycamore Canyon-Penasquitos 230 KV line.
47. SDG&E estimates the total capital cost of Sunrise as a little over \$1.2 billion, including AFUDC, contingency, and escalation. What would the total capital cost of Sunrise be for each of the following:
 - a. Sunrise without the Sycamore Canyon-Penasquitos 230 KV line?
 - b. Sunrise without one of the two Central-Sycamore Canyon 230 KV lines?
 - c. Sunrise with the 500 KV line conductor sized for an emergency rating of 2200 MVA?
 - d. Sunrise with the 500 KV line conductor sized for an emergency rating of 2200 MVA, and also no Sycamore Canyon-Penasquitos 230 KV line?
48. Please describe the assumption(s) in each of the Cases 100, 101, and 104, as well as each of the cases with and without Sunrise used in developing Appendix I-1, regarding the State Water Project's Edmonston Pumping Plant. In particular, please indicate:
 - a. What pumping load was assumed at Edmonston during 90/10 peak load conditions?
 - b. What pumping load was assumed at Edmonston during 50/50 peak load conditions?
 - c. What was the minimum pumping load assumed at Edmonston, and how many hours per year were pumping loads at that minimum?
 - d. What was the average pumping load assumed at Edmonston?
49. Table IV-3 on p. IV-20 reports a non-coincident peak load for 2015 of 34884 Mw for "Arizona, New Mexico, West Texas, Nevada, WAPA L.C." Please confirm (or, in the alternative, provide an explanation of SDG&E's understanding of the correct facts) that:
 - a. The 34884 Mw figure is equal to the sum of the loads shown on Table IV-24 for Arizona, New Mexico, Nevada, and "WAPA L.C.", without West Texas.
 - b. No load is shown for "West Texas" in Table IV-24.
 - c. Tables IV-11, -12, and -13 show generation additions between 2010 and 2015 of 8012 Mw for "Arizona, New Mexico, West Texas, Nevada, WAPA L.C."
 - d. Table IV-24 shows a combined increase in non-coincident peak demand for Arizona, New Mexico, Nevada and WAPA L.C. of 5510 Mw.
50. Please explain in detail whether and why SDG&E believes it is reasonable for the CPUC to assume resource additions in Arizona, New Mexico, Nevada, West Texas and WAPA L.C. in 2010-2015 will equal 145 percent (8012 Mw/5510 Mw) of non-coincident peak load growth in the same region and the same time period.

51. Table IV-3 on p. IV-20 reports a non-coincident peak load for 2015 of 71601 Mw for “IID, LADWP, CFE, PG&E, SDG&E, SCE” Please confirm (or, in the alternative, provide an explanation of SDG&E’s understanding of the correct facts) that:
- a. The 71601 Mw figure in Table IV-3 does not equal the 72,466 Mw sum of the loads shown on Table IV-24 for IID, LADWP, CFE, PG&E, SDG&E, and SCE.
 - b. Tables IV-3 and IV-24 are supposed to be consistent, but are not with respect to 2015 loads for IID, LADWP, CFE, PG&E, SDG&E, and SCE.
 - c. Tables IV-11, -12, and -13 show generation additions between 2010 and 2015 of about 7200 Mw for IID, LADWP, CFE, PG&E, SDG&E, and SCE.
 - d. Table IV-24 shows a combined increase in non-coincident peak demand for IID, LADWP, CFE, PG&E, SDG&E, and SCE of over 10,200 Mw
52. Please explain in detail whether and why SDG&E believes it is reasonable for the CPUC to assume resource additions in IID, LADWP, CFE, PG&E, SDG&E, and SCE between 2010 and 2015 will equal less than 71 percent (approximately 7205 Mw/10247 Mw) of non-coincident peak load growth in the same region and the same time period.
53. Please explain in detail whether and why SDG&E believes it is reasonable for the CPUC to assume resource additions in the SDG&E service area between 2010 and 2015 will equal 0 percent of non-coincident peak load growth in the same region and the same time period.
54. Please explain in detail whether and why SDG&E believes it is reasonable for the CPUC to assume resource additions in the LADWP, SCE, and PG&E service areas between 2010 and 2015 will equal less than 62 percent of non-coincident peak load growth in the same region and the same time period, as shown in Tables IV-11, 12, 13, and -24 (4900 Mw of new generation; 7916 Mw increase in load).
55. For each of the generation additions in the LADWP, SCE, and PG&E service areas shown in Tables IV-11, 12, 13, please indicate:
- a. Whether that generation addition will require a CEC permit, and if not, why not.
 - b. Whether that generation addition currently has a CEC permit.
 - c. Whether a CEC permit has yet been applied for
 - d. Which of the three utilities LADWP, PG&E, or SCE is the expected owner or contract recipient of that generation addition.
 - e. The location of that generation addition
 - f. The expected on-line year of that generation addition
56. Please explain:
- a. Were the SDG&E, PG&E, and SCE load shapes modified in Cases 100, 101, and 104 to reflect implementation by 2015 of 3000 Mw of solar generation, with 1500 Mw of that generation available at the time of peak load, as shown in Table II-3 for SDG&E.

- b. How were the SDG&E, PG&E, and SCE load shapes modified in Cases 100, 101, and 104 to reflect implementation by 20165 of 2550 Mw of solar generation, with 50% of that generation available at the time of peak load, as shown in Table II-3 for SDG&E and described on pp. VI-26 and -27 for the rest of the state?
 - c. What was the total gwh reduction in 2015 loads due to solar generation assumed for each of SCE, SDG&E, LADWP, and PG&E in each of Cases 100, 101, and 104.
 - d. What was the total solar generation (if any), as opposed to load reduction, assumed for each of SCE, SDG&E, LADWP, and PG&E in each of Cases 100, 101, and 104.
57. Please reconcile the 914 Mw IID load in 2010 shown in Table IV-24 with IID's showing to the CEC of an 1134 Mw load (before losses) in 2009, as shown in http://energy.ca.gov/sitingcases/elcentro/documents/applicant_files/afc/vol-2/C_Appendix_A_System_Impact_Study.pdf, p. 16 of 140, and indicate the correct IID load for 2009 and 2010.
58. Please reconcile the 2402 Mw of Imperial Valley generation shown in Table IV-14 for the year 2010 with IID's representation of its system to the CEC earlier this year, showing an expected generation in 2009 of 1088 Mw from IID generation (468 Mw) and independent power generators (620 Mw) and a maximum generation in 2009 of 1391 Mw from IID generation (771 Mw) and independent power generators (620 Mw) (http://energy.ca.gov/sitingcases/elcentro/documents/applicant_files/afc/vol-2/C_Appendix_A_System_Impact_Study.pdf, pp. 44 and 65 of 140.)
59. Please indicate for each of the units shown in Table IV-14:
 - a. Whether it is an IID-owned unit, an independent power producer, or neither.
 - b. Its expected on-line date.
 - c. For units whose capacity increases over time, the expected upgrade date(s) and the amount of Mw increase for each increase.
 - d. The location of each unit.
60. Please reconcile the discrepancy in the average solar installation sizes shown on p. VI-28 of 6.75 kw (17 3.3 kw units and 1 65.4 kw unit out of each 18 units) and 8.66-9.24 kw (7.5-8 Mw from 866 units in 2006).
61. Please reconcile the following differing residential:commercial solar installation ratios in:
 - a. SDG&E's testimony of 17:1 (p. VI-28, "based on historical installations),
 - b. 18:1 (p. VI-29, "SDG&E is experiencing today"),
 - c. 314:1 (p. VI-29; to achieve 394 Mw by 2010), and
 - d. 405:1 (p. VI-29; to achieve 1000 Mw),

- e. Please explain which is SDG&E's actual best estimate, and explain why the other numbers were used.
62. Please explain why a project whose name is "139Mw_CT" is listed as a 734 Mw combined cycle operating by 2010 in Tables IV-11, -12, -13, and indicate:
- What is the location of this generation project?
 - What is its expected on-line date?
 - Does it have regulatory permits?
 - Did SDG&E model this project as a CT or a combined cycle?
 - Is it under construction yet?
 - Who is the project owner?
63. Please explain why the "Montana First Megawatts" project is listed in Tables IV-11, -12, -13 (as "Mt. First Mw") as operational by 2010 in light of the fact that its owner declared last year that it was selling off the partially-completed plant and expected to sell the generation equipment for "20 to 25 million."
http://64.233.167.104/search?q=cache:B0OdDk2nvBAJ:www.northwesternenergy.com/investors/earningsrelease/default.aspx%3Fdocument_id%3D403%26M%3D1857%26I%3D199+%22Montana+Megawatts%22+MMI&hl=en&gl=us&ct=clnk&cd=3
- In light of this recent information, please provide SDG&E's estimate of the year that SDG&E expects this plant to enter commercial operation?
 - Who does SDG&E believe is the owner of this project?
64. Please provide all documents showing SDG&E's due diligence efforts to validate the reasonableness and accuracy of the WECC resource data provided to SDG&E in early 2006 (p. IV-42), in particular the generation data summarized in Tables IV-11, -12, -13 and the load data summarized in Tables IV-24 and IV-25.
65. Please explain why a project whose name is "Rawhide GT 5" is listed as a combined cycle plant operating by 2010, and indicate:
- What is the location of this generation project?
 - What is its expected on-line date?
 - Does it have regulatory permits?
 - Did SDG&E model this project as a CT or a combined cycle?
 - Is it under construction yet?
 - Who is the project owner?
66. For the project listed as "Four Corners," a 1460 Mw coal project in the "Arizona, New Mexico, West Texas, Nevada, WAPA L.C." region, please indicate:
- Where is this project assumed by SDG&E to be located?
 - Is this project an expansion of the existing Four Corners 1-5 generation project?

- c. What permits does this project currently have?
 - d. When is this project expected to start construction?
 - e. When is this project expected to be in commercial operation?
 - f. Who is the owner of this project?
 - g. What transmission facilities has SDG&E assumed will be built in conjunction with this project?
67. For the project listed as “Desert Rock Power” a 1460 Mw coal project in the “Arizona, New Mexico, West Texas, Nevada, WAPA L.C.” region, please indicate:
- a. Where is this project assumed by SDG&E to be located?
 - b. What permits does this project currently have?
 - c. When is this project expected to start construction?
 - d. When is this project expected to be in commercial operation?
 - e. Who is the owner of this project?
 - f. What transmission facilities has SDG&E assumed will be built in conjunction with this project?
68. For each of Cases 100, 101, and 104, please list all new 500 KV lines assumed placed in service after the year 2007 located in whole or in part in the states of:
- a. Arizona
 - b. Nevada
 - c. New Mexico
 - d. Colorado
 - e. Utah
 - f. Wyoming
69. For each of cases 100, 101, and 104, for each new 500 KV line assumed placed in service after the year 2007 which is located in whole or in part in the states of Arizona, New Mexico, Nevada, Utah, Colorado, or Wyoming region, please indicate:
- a. What permits does this project currently have?
 - b. When is this project expected to start construction?
 - c. When is this project expected to be in commercial operation?
 - d. Who is the owner and/or developer of this project?
70. SDG&E asserts that there is “a need for new transmission to connect regions with generating capability well in excess of predicted loads, to the California load centers...” (p. IV-20).
- a. Is it SDG&E’s contention that the Imperial Valley is a region “with generating capability well in excess of predicted loads”?

- b. Please provide SDG&E's expectation of Imperial Valley generating capability, peak load, and export capability in each of the years 2010-2015 for each of Cases 100, 101, and 104.
 - c. Does SDG&E claim that Arizona, New Mexico, West Texas, Nevada, and WAPA L.C. form a region "with generating capability well in excess of predicted loads"?
 - d. Please provide SDG&E's basis for its apparent belief that regions with 2015 generating capability well in excess of predicted 2015 loads will continue to have generating capability well in excess of loads in 2016-2049, inclusive. If you dispute this interpretation of your testimony, please provide a clarification.
71. SDG&E states, in bold, that it "anticipates a significant increase in imports from the desert Southwest" (p. IV-21). In regards to this statement please:
- a. Define the geographical boundaries of the "Desert Southwest" as used here.
 - b. Provide historical imports from the "desert Southwest" to SCE, SDG&E and SDG&E (either individually or collectively) for the most recent year for which SDG&E has data, broken down by state of origin if possible.
 - c. Provide forecasted imports from the "desert Southwest" to SCE, SDG&E and SDG&E (either individually or collectively) for 2010 for each of Cases 100, 101, and 104, broken down by state of origin if possible.
 - d. Provide forecasted imports from the "desert Southwest" to SCE, SDG&E and SDG&E (either individually or collectively) for 2015 for each of Cases 100, 101, and 104, broken down by state of origin if possible.
72. With reference to p. IV-21, please provide, for case 100 in each of the years 2010 and 2015:
- a. The names of "the lines comprising the East Of River" transmission system which exhibit "significant congestion"?
 - b. A quantification of the "significant congestion" on those lines.
 - c. A quantification of the "significant congestion ... on the Miguel import nomogram".
73. SDG&E states that "Under this contingency condition [G-1/N-1 during 90/10 peak load conditions] the system must be able to withstand the next most severe contingency."
- a. What NERC/WECC contingency category would the system be considered to be in after "the next most severe contingency," with the largest generator and the two largest transmission lines all simultaneously out of service during 90/10 peak load conditions (e.g, category B, C, D, etc.)?
 - b. For each of Cases 100, 101, and 104, please identify the name and probability of the G-1 event, the N-1 event, and the "next most severe contingency."

74. Page IV-24 refers to Table IV-17. Table IV-17 as printed appears identical to Table II-3. Please identify any differences between Table IV-17 and Table II-3.
75. Please provide copies of Tables IV-18, -19, and -20 which are sufficiently legible to identify which units SDG&E assumes are designated as RMR units each year, and which are not. The highlighting referenced on the last line of p. IV-26 is not visible.
76. Please provide a detailed description of the “crude nomogram” described on p. IV-31, and indicate whether this nomogram was also present in the simulations done in 2005 for Cases 00, 1, 2, and 3.
77. SDG&E states that for “the generation market outside of the San Diego area ... the ability of these generation owners to exercise market power is not a significant concern” (p. IV-32). In regards to this statement please state:
- a. Does this mean that the CPUC should assume that there will be no market power exercised by generators in the SCE and PG&E areas in 2010 or 2015?
 - b. In SDG&E’s modeling, has it assumed there will be no exercise of market power by generators in the SCE and PG&E areas in 2010 or 2015?
 - c. In SDG&E’s Gridview modeling, please identify which generators (or classes of generators if there are too many to identify individually) are assumed to bid above their marginal cost in 2010 and 2015 in each of Cases 100, 101, and 104.
 - d. Please indicate how the bottom line Gridview results for Cases 100, 101, and 104 would differ if all generators outside of the SDG&E area were assumed to bid their marginal costs and to sell at any LMP greater than or equal to their marginal cost.
78. Table IV-5 on p. IV-34 indicates that combined cycles are normally “Off at low loads.” Please indicate, for each of the years 2010 and 2015, for each of cases 100, 101, and 104, what percentage of the time each of the following technologies is the marginal source of generation in the CAISO area:
- a. CTs
 - b. Combined cycles
 - c. Gas-fired steam plants
 - d. Other gas- or oil-fired plants
 - e. Coal
 - f. Hydro
 - g. Nuclear
 - h. Other
79. Table IV-5 on p. IV-34 indicates that combined cycles are normally “Off at low loads.” Please indicate, for each of the years 2010 and 2015, for each of cases 100, 101, and 104,

what percentage of the time each of the following technologies is the marginal source of generation in the Arizona area:

- a. CTs
- b. Combined cycles
- c. Gas-fired steam plants
- d. Other gas- or oil-fired plants
- e. Coal
- f. Hydro
- g. Nuclear
- h. Other

80. Table IV-5 on p. IV-34 indicates that combined cycles are normally “Off at low loads.” Please indicate, for each of the years 2010 and 2015, for each of cases 100, 101, and 104, what percentage of the time each of the following technologies is the marginal source of generation in the Nevada area:

- a. CTs
- b. Combined cycles
- c. Gas-fired steam plants
- d. Other gas- or oil-fired plants
- e. Coal
- f. Hydro
- g. Nuclear
- h. Other

81. Table IV-5 on p. IV-34 indicates that combined cycles are normally “Off at low loads.” Please indicate, for each of the years 2010 and 2015, for each of cases 100, 101, and 104, what percentage of the time each of the following technologies is the marginal source of generation in the New Mexico area:

- a. CTs
- b. Combined cycles
- c. Gas-fired steam plants
- d. Other gas- or oil-fired plants
- e. Coal
- f. Hydro
- g. Nuclear
- h. Other

82. SDG&E asserts that “Since the existing and planned SDG&E [RMR] units are the same in all cases, they cancel out in comparative analysis and can be ignored.” (p. IV-37)

- a. In light of this statement, please explain why the “SDG&E fixed” costs in Table IV-6 on p. IV-37 are not the same in all cases. Can these costs be ignored?

- b. Please explain in which years (if any) Otay Mesa should be treated as an SDG&E “owned/controlled” (p. IV-36) unit for RMR cost purposes, over the period 2010-2049?
 - c. What assumptions has SDG&E made about Otay Mesa RMR costs and who pays them?
 - d. Is it correct that SDG&E has assumed that new combined cycle plants at Sycamore Canyon and Encina in Case 104 are not “owned/controlled” by SDG&E?
 - e. Is it correct that SDG&E assumes new combined cycles in Case 104 are not owned/controlled by SDG&E, and CAISO area ratepayers are assumed to pay RMR costs for those units, LMP-based energy prices for the generation from those units, cost-based capacity prices for the installed capacity at those new units, and also cost-based incremental transmission costs for those units? If not, please explain what SDG&E assumes about payments for new generation at Sycamore Canyon and Encina in Case 104.
83. For each of Cases 100, 101, and 104, for each SDG&E-area generator for which SDG&E expects RMR costs in 2010-2016, please provide a table, in Excel format, showing:
- a. The Generator name
 - b. The generator size in Mw for RMR purposes
 - c. “2006 Condition 2 fixed costs” (p. IV-36) for that generator
 - d. “2006 Condition 1 fixed costs” (p. IV-36) for that generator
 - e. Annual expected RMR payment to that generator, for each year 2010-2016, inclusive
84. Is it correct that all 2016-2049 costs and benefits for Cases 100, 101, and 104 are calculated by extrapolation at a fixed escalation rate from the aggregate 2015 figures, including (either implicitly or explicitly) RMR costs? If not, please explain in detail how 2016-2049 costs and benefits were determined.
85. Please provide the separate uncertainty modeling described on p. IV-40 which results in uncertainty costs more 10 times as large for Case 104 as for Case 100 (Table IV-7, p. IV-41).
86. For each of the years 2010 and 2015, please
- a. Quantify the fixed annual costs for the “new connection between the IID control area and the CAISO control area at San Felipe substation” (p. IV-42) which is included only in Case 100, and
 - b. Indicate how many gwh of generation will be delivered to the CAISO from IID at that connection, and

- c. Estimate the amount CAISO ratepayers will pay in wheeling costs to IID for deliveries over that new connection.
87. Please provide a detailed description of the “associated transmission upgrades” (p. IV-42) for cases 101 and 104, as well as a quantitative summary of their total cost and annual cost in each of the years 2010 and 2015.
88. SDG&E claims that it “assumed that by 2010 there will be 600 Mw of new renewable resources in the Imperial Valley. This 600 Mw is composed of 300 Mw of solar thermal resources and 300 Mw of geothermal resources.” (p. IV-43) This statement appears to contradict Table IV-14, which shows 1085-1106 Mw of renewable resources in 2010 in the Imperial Valley which UCAN believes are not currently in commercial operation (the 2010 resources in Table IV-14 called SaltnGeo, SS07 geo, SS08 geo, SS09 geo, Solar Thermal, and perhaps “WPOWER#2_” as well).
 - a. Please indicate the actual number of Mw of renewable resources that SDG&E assumed operating in the Imperial Valley in each of Cases 100, 101, and 104, as of:
 - i. 1/1/2010
 - ii. 6/1/2010
 - iii. 12/31/2010.
 - b. Please identify SDG&E’s best current estimate of the number of Mw of not-currently commercial renewable generation that will be in commercial operation in the Imperial Valley:
 - i. By 1/1/2010
 - ii. By 6/1/2010
 - iii. By 12/31/2010
89. SDG&E states that the “IVSG identified a long-term renewable resource build-out scenario that includes 2200 Mw of new renewable resources along with a proposed expansion of the IID transmission system.... SDG&E has incorporated these resource and transmission additions into the year 2015 analysis.” (p. IV-44) This statement appears to contradict Table IV-14, which shows 2585-2606 Mw of renewable resources in 2015 in the Imperial Valley which UCAN believes are not currently in commercial operation (the 2015 resources in Table IV-14 called SaltnGeo, SS07 geo, SS08 geo, SS09 geo, SS10geo, SS11 geo, SS12 geo, SS13 geo, SS14 geo, Solar Thermal, and perhaps “WPOWER#2_” as well).
 - a. Please indicate the actual number of Mw of renewable resources that SDG&E assumed operating in the Imperial Valley in each of Cases 100, 101, and 104, as of:

- i. 1/1/2015
- ii. 6/1/2015
- iii. 12/31/2015.

b. What is SDG&E's best current estimate of the number of Mw of not-currently commercial renewable generation that will be in commercial operation in the Imperial Valley:

- i. By 1/1/2015
- ii. By 6/1/2015
- iii. By 12/31/2015

c. How many Mw of new renewable resources does the IVSG report assume will be operating in the Imperial Valley in 2015?

d. At the time that 2200 Mw of new renewable generation have been developed, what does the IVSG report assume will be the IID-SCE transfer capability?

e. What transfer capability between the IID and SCE areas does SDG&E assume in Cases 100, 101, and 104 for each of the years 2010 and 2015?

f. How many gwh per year does SDG&E show being delivered from IID to the SCE area in each of cases 100, 101, and 104, for each of the years 2010 and 2015?

g. What wheeling cost does SDG&E assume CAISO ratepayers will incur for deliveries to the SCE part of the CAISO control area, for each of cases 100, 101, and 104 in each of the years 2010 and 2015?

h. How many gwh per year does SDG&E show being delivered from IID to the SDG&E area in each of cases 100, 101, and 104, for each of the years 2010 and 2015?

i. What wheeling cost does SDG&E assume CAISO ratepayers will incur for deliveries to the SDG&E part of the CAISO control area, for each of cases 100, 101, and 104 in each of the years 2010 and 2015?

j. What are the overall deliveries (in gwh) from IID to the CAISO area in each of cases 100, 101, and 104, for each of the years 2010 and 2015?

k. What wheeling cost does SDG&E assume CAISO ratepayers will incur for deliveries to the CAISO area, for each of cases 100, 101, and 104 in each of the years 2010 and 2015?

90. Please provide all evidence in SDG&E's possession for the claim that alternative renewable energy locations to the Imperial Valley ("for example, wind in the Tehachapi

area”) would involve renewable resources with capital costs that are “likely higher, from those of the renewable resources assumed for the Imperial Valley” (p. IV-45).

91. What does SDG&E believe will be the capital costs of “the renewable resources assumed for the Imperial Valley” (p. IV-45):
 - a. For wind generation as shown on Table IV-14?
 - b. For solar generation as shown on Table IV-14?
 - c. For geothermal generation as shown on Table 14, giving different numbers for the different geothermal projects on Table IV-14 to the extent SDG&E believes different projects will have different capital costs.

92. SDG&E indicates that it and the CAISO have a \$257 million difference (in 2005 dollars) between their estimates of the grid efficiency benefits of Sunrise (p. IV-49).
 - a. Has SDG&E made a “thorough comparison” of its analysis and the CAISO’s?
 - b. If not, why not?
 - c. Please provide any analysis or other descriptions or explanations in SDG&E’s possession of the differences between its analysis and the CAISO’s, and their causes.

93. SDG&E says it estimates grid efficiency benefits from Sunrise, in 2005 dollars, as \$41 million in 2010 and \$395 million in 2015 (p. IV-49).
 - a. Please provide a quantitative explanation of why the benefits expand tenfold over a 5 year period.
 - b. Please explain why the corresponding numbers in Table IV-2 on p. IV-17 are \$38 million and \$397 million.
 - c. Which numbers is SDG&E proposing the Commission adopt?

94. SDG&E hypothesizes that different gas transport cost assumptions may explain differences in results between the CAISO and SDG&E Gridview models (p. IV-49). SDG&E reports that the two models use “similar Arizona gas prices” (p. IV-50) but have gas transport cost assumptions which differ between the two models by \$0.24 per million Btu in 2006 dollars (\$0.20/MMBtu for the CAISO in 2006 dollars (p. IV-50), which corresponds to \$0.195/MMBtu in 2005 dollars, using SDG&E’s 2.5%/year deflator (p. IV-49); \$0.435/MMBtu for SDG&E in 2005 dollars (p. IV-50); \$0.435 minus \$0.195 equals \$0.24/MMBtu. Thus the CAISO 2015 price for gas in Southern California is about 3.5% lower for the CAISO’s model than for SDG&E’s.
 - a. Please provide a quantitative explanation of how much of the \$57 million grid efficiency differential identified by SDG&E on p. IV-49 was caused by a 3.5% differential in Southern California natural gas prices?

- b. What is SDG&E's estimate for the average transmission loss differential for generation in Arizona delivering to CAISO loads versus generation in Southern California delivering to CAISO loads?
 - c. How are transmission losses taken into account in Gridview in calculating whether to displace generation in Southern California with generation in Arizona?
 - d. What would the Case 100, 101, and 104 results have been, as summarized on Table IV-2, if Table IV-2 had been based on CAISO natural gas prices and natural gas transport cost assumptions?
95. When LNG imports reach Southern California and Baja California in future years, how does SDG&E expect that to affect the price differential for natural gas deliveries in Southern California vs. Arizona?
96. Please provide any documents or other data in SDG&E's possession which bears on the likely impacts of LNG imports on long-term delivered natural cost differentials between Southern California (or any geographical subset of it) and Arizona (or any geographical subset of it).
97. Please provide a detailed description of the reasons for the differences between the numbers in Table IV-2 and the corresponding numbers in Table V-6 of SDG&E's 12/14/05 filing, with respect to:
- a. The 40-50% increase in Gross Consumer Energy Costs in Cases 100 and 101 vs. the corresponding costs in Cases 00 and 1.
 - b. The 30-50% increase in Utility-Owned Producer Surplus in Cases 100 and 101 vs. the corresponding costs in Cases 00 and 1.
 - c. The 7- to 14-fold increase in CAISO Congestion rents in 2010 in Cases 00 and 1 vs. the corresponding costs in Cases 100 and 101.
 - d. The more than 50% reduction in 2015 CAISO Congestion Rents in 2015 in Case 101 versus Case 1, while 2015 CAISO Congestion Rents go up in Case 100 compared to Case 00.
 - e. The change in net 2015 CAISO Congestion Rents from \$1 million in Case 00 minus Case 1 to \$159 million in Case 100 minus Case 101.
 - f. The reversal of sign for net 2010 CAISO Congestion Rents between Table V-6 in 12/05 and Table IV-2 in 8/06.
98. SDG&E reports (correctly) that the CAISO's analysis excludes costs associated with IID's proposed 5% share of the Imperial Valley to Narrows 500 KV line (p. IV-52). In regards to this report, please state:

- a. How does SDG&E's analysis differ from the CAISO's on this point?
 - b. How would the \$174 million levelized cost of Sunrise shown in Table IV-1 on p. IV-9 differ if SDG&E had used the CAISO's modeling assumption with regard to IID's share of Sunrise facilities?
99. SDG&E reports on a CAISO sensitivity case which assumed generators bid at marginal cost.
 - a. In a fully competitive market, would economic theory predict that generators would have no reason not to bid at their marginal cost?
 - b. How would SDG&E's Gridview results, as summarized in Table IV-2, differ if SDG&E had assumed that generators bid at marginal cost?
100. Please explain why section "(1)" of Table IV-10 shows no costs in 2040-2049. Shouldn't it at least include fixed O&M costs?
101. Please supply the spreadsheets footnoted at the bottom of Table IV-10, in Excel format.
102. The 4th project listed on Tables IV-11, -12, -13 is the "Afton CC," shown as a 506 Mw project operating by 2010.
 - a. Please reconcile the 506 Mw value assumed by SDG&E with the project owner's own resource plan, at http://www.pnmresources.com/fin/docs/2005/elec_supply_plan.pdf#search=%22PNM%20Reeves%20repower%22, which shows two Afton projects totaling 272 Mw.
 - b. Please provide any data SDG&E has showing that the PNM is in error with regard to the size of the Afton project(s).
 - c. Please indicate whether, other things being equal, smaller Afton generation would or would not tend to decrease New Mexico exports, and thus decrease CAISO imports, and thus decrease the frequency of hours when potential imports from all sources are greater than SDG&E's import capability without Sunrise, and thus decrease the economic benefits of Sunrise.
103. Tables IV-24 and -25 show B.C. Hydro loads in 2015 of 10588 Mw and 63,035 gwh. However, BC Hydro's 2006 Integrated Energy Plan shows a load forecast for FY2015 of 11,800 Mw and 67,200 gwh (http://www.bchydro.com/rx_files/info/info43514.pdf, Tables 8-1 and 8-3), with a range of plus or minus 400 Mw and 2000 gwh around that figure.

- a. Please provide any basis SDG&E has for disputing BC Hydro's own load forecast for itself.
 - b. Please indicate whether, other things being equal, higher BC Hydro loads would or would not tend to decrease BC Hydro exports, and thus decrease CAISO imports, and thus decrease the frequency of hours when potential imports from all sources are greater than SDG&E's import capability without Sunrise, and thus decrease the economic benefits of Sunrise.
104. Tables IV-11, -12, -13 list some 1814 Mw of hydro capacity additions in Canada in 2010-2015, plus 897 Mw of "BC generic wind" and 651 Mw of "generic CCGT."
 - a. How much of these 3362 Mw of 201-2015 additions are modeled by SDG&E as occurring in Alberta?
 - b. Please reconcile SDG&E's numbers with BC Hydro's 2006 Long-Term Acquisition Plan, which shows 1800 Mw of total resource additions in 2010-2015, of which only 600 Mw are shown as hydro (http://www.bchydro.com/rx_files/info/info43514.pdf, Tables 8-3), and provide any basis SDG&E has for disputing BC Hydro's own plans.
105. Tables IV-11, -12, -13 list a 384 Mw Reeves combined repower project for 2010 operation. But the owner's own resource plan lists the repowered Reeves plant as a 206 Mw facility (http://www.pnmresources.com/fin/docs/2005/elec_supply_plan.pdf#search=%22PNM%20Reeves%20repower%22, p. 30).
 - a. Please provide any data SDG&E has showing that the PNM is in error with regard to the size of the Reeves repower project.
 - b. Please indicate whether, other things being equal, smaller Reeves generation would or would not tend to decrease New Mexico exports, and thus decrease CAISO imports, and thus decrease the frequency of hours when potential imports from all sources are greater than SDG&E's import capability without Sunrise, and thus decrease the economic benefits of Sunrise.
106. Tables IV-11, -12, -13 list a "Blythe" 161 Mw combined cycle for operation by 2010. Please indicate:
 - a. Where does SDG&E's modeling locate this project?
 - b. Who does SDG&E expect to own this project?
 - c. What permits does this project currently hold?
 - d. Is this project under construction?
107. Tables IV-11, -12, -13 list a "Palo Verde" 2437 Mw gas turbine project for operation by 2015. Please indicate:

- a. What is SDG&E's understanding of how the CAISO modeled this project in its Gridview analysis underlying Appendix I-1 of SDG&E's 8/4/06 filing?
 - b. Who does SDG&E expect to own this project?
 - c. What permits does this project currently hold?
 - d. Is this project under construction?
 - e. How did SDG&E model this project (e.g., as simple cycle CTs? As combined cycles? As one unit? As many?)
 - f. How did SDG&E model the interconnection of this project to the WECC grid?
108. Tables IV-11, -12, -13 list a "Bull Mtn Broadvw Mt." 487 Mw coal project for operation by 2010. Please indicate:
- a. Is this the same as the Bull Mountain coal mine and power project described in <http://www.snl.com/interactivex/article.aspx?CdId=A-4214553-12901>?
 - b. What is SDG&E's basis for believing that this project will be on line by 2010, and will be 487 Mw?
 - c. Does SDG&E have any reason to doubt the trade press article at <http://www.snl.com/interactivex/article.aspx?CdId=A-4214553-12901> in which a Bull Mountain mining executive indicates that the project is being downsized to 250 Mw and converted to an integrated coal-gasification project?
 - d. Please provide any basis SDG&E has for believing that a coal gasification project started in 2006, which does not yet have an air quality permit, can be operating by 2010.
 - e. Please indicate whether, other things being equal, smaller Montana coal generation would or would not tend to decrease Montana exports, and thus decrease CAISO imports, and thus decrease the frequency of hours when potential imports from all sources are greater than SDG&E's import capability without Sunrise, and thus decrease the economic benefits of Sunrise.
109. For each of the years 2010 and 2015, for each of Cases 100, 101, and 104, for each of the generating units over 40 Mw in the SDG&E area modeled in Gridview and also for the "Solar Thermal" and "SS07 geo" units listed on Table IV-14, please provide the following data described on p. IV-4 in Excel format:
- a. Hourly LMPs at each generator bus
 - b. Hourly quantity of generation at that bus
 - c. Annual variable cost for that unit

110. SDG&E says that “what the CAISO collects from loads” is also called “gross CAISO consumer costs” (p. IV-4), and that “gross CAISO consumer costs are approximated by the quantity of load at each bus times the LMP at the respective bus.” (p. IV-16).
- a. Please explain what the term “approximated” refers to, and what other calculations were made by SDG&E, inside or outside of Gridview, to estimate “what the CAISO collects from loads (gross CAISO consumer costs)” (p. IV-4).
 - b. For each hour in 2010 and 2015, for each of Cases 100, 101, and 104, please provide an electronic listing, in Excel format, of the total load at all SDG&E-area busses
 - c. For each hour in 2010 and 2015, for each of Cases 100, 101, and 104, please provide an electronic listing, in Excel format, of the average LMP at SDG&E-area busses serving load, where the average is calculated on a load-weighted basis (since the hourly load-weighted average LMP is the hourly SDG&E-area gross consumer cost divided by the hourly SDG&E-area load, SDG&E may, at its discretion, provide hourly SDG&E-area gross consumer costs in lieu of the hourly load-weighted SDG&E-area LMP).
111. For each of the years 2010 and 2015, for each of Cases 100, 101, and 104, please provide the annual average load-weighted LMP for:
- a. SDG&E-area busses serving load
 - b. SCE-area busses serving load
 - c. PG&E-area busses serving load
 - d. All CAISO-area busses serving load
112. Please describe, for each of the “modifications” that SDG&E has made to the WECC database (bottom of p. IV-6):
- a. The nature of the datum that was changed (e.g., a powerplant online date)
 - b. The original WECC value.
 - c. SDG&E’s modified value.
 - d. The nature and source of the “better information” that SDG&E “believes” it has.
113. P. IV-7 refers to the “shadow price” of a congestion line.
- a. In Gridview, please describe how shadow prices are determined.
 - b. Please provide the hourly shadow prices for the Imperial Valley-Miguel line for 2010 and 2015 in Cases 100 and 104.
 - c. Please provide the hourly shadow prices for both the Imperial Valley-Miguel line and for each segment of the proposed Sunrise line for the years 2010 and 2015 in Case 101.
114. How was the CAISO share of congestion rents determined in Gridview in Case 101 for the CAISO-IID interface at the San Felipe substation?

115. Please provide any documents in SDG&E's possession discussing the implications of FERC Order 679 (cited on pp. IV-9 and IV-10) for the Sunrise project and/or potential changes to Sunrise revenue requirements with differing incentives pursuant to Order 679.
116. Please define the geographic area of the "desert Southwest" as referenced on
- a. page IV-14
 - b. page IV-19
117. SDG&E asserts that "the simulation does not produce combined imports which reach the 4000 Mw level". Please provide, for each of the years 2010 and 2015, and for each of cases 100, 101, and 104:
- a. The number of hours per year that imports to the SDG&E area are at or above 2850 Mw.
 - b. The number of hours per year that imports to the SDG&E area are at or above 3000 Mw.
 - c. The number of hours per year that imports to the SDG&E area are at or above 3200 Mw.
 - d. The number of hours per year that imports to the SDG&E area are at or above 3500 Mw.
 - e. The highest number of Mw imported in any hour of the year.
 - f. The number of Mw imported in the hour of the year with the 100th highest level of imports.
 - g. As an alternative to a-f above, if more convenient, provide an electronic table, in Excel format, with the 8760 hours of the year listed chronologically in one column and the corresponding Mw of imports for that hour in a second column.
118. SDG&E describes Miguel area import nomogram limits on pp. IV-15. For each of the years 2010 and 2015, for each of Cases 100, 101, and 104, please provide a table of hours when a Miguel nomogram import limit was binding, showing:
- a. The month, day of the month, and hour of the day when a Miguel limit was binding (i.e., when imports at Miguel were equal to 100% of the Miguel import limit).
 - b. The Mw limit at Miguel in that hour due to the Miguel import nomogram.
119. SDG&E indicates that the current Miguel area import limit of 1900 Mw due to the 230 KV system will be relaxed by 2010 (pp. IV-15, -16). Please indicate:
- a. What will the 230 KV system constraint on Miguel imports be (if any) in 2010 and 2015?
 - b. How were 230 KV system constraints on Miguel imports modeled in Gridview?

- c. In how many hours in each of the years 2010 and 2015, for each of Cases 100, 101, and 104, were flows over the Imperial Valley-Miguel line constrained by the Miguel area 230 KV system to a lower level than would have otherwise occurred if there were no 230 KV system constraints in the Miguel area?
120. SDG&E indicates that it reduces “gross CAISO consumer costs” by the “producer surplus for generation that is owned” or contracted for (fn. 14) “by utilities serving load in the CAISO control area.” (p. IV-16). Please identify, for each of the years 2010 and 2015 and for each of cases 100, 101, and 104:
 - a. Each generator assumed by SDG&E to be owned by a utility serving load in the CAISO control area.
 - b. Each generator (or percentage of a generator) assumed by SDG&E to be contracted to a utility serving load in the CAISO control area.
 - c. For each of the 10 generators larger than 150 Mw listed in Table IV-14, if SDG&E did not assume it would be contracted to a utility serving load in the CAISO area, SDG&E’s basis for **not** so assuming.
121. Please provide (in Excel format), for each of the years 2010 and 2015, for each of cases 100, 101, and 104, data equivalent to that used to produce Figures V-1 and V-2 of SDG&E’s 12/14/05 filing.
122. Table IV-2 on p. IV-17 compares Gridview cases 100 and 101 and shows a net levelized consumer energy savings of \$468 million. Table V-6 on p. V-19 of SDG&E’s 12/14/05 filing compares, in identical format, cases 00 and 1 and shows a net levelized consumer energy savings of \$468 million. Please explain in detail which changed input assumptions were the principal drivers for each of the following changes over the course of less than 8 months:
 - a. SDG&E’s bottom line levelized benefit number for Sunrise almost quintupled.
 - b. The impact of Sunrise on 2015 CAISO congestion rents went from \$1 million to \$159 million.
 - c. Gross consumer energy costs went up about 40-50%.
 - d. Utility-owned producer surpluses went down about about 30 percent.
 - e. Net consumer energy savings in 2010 changed less than 10 percent (from \$38 to \$41 million in 2005 dollars) but net consumer energy savings in 2015 increased 5-fold (from \$80 to 397 million).
123. Please provide the CPUC-adopted weighted cost of capital and the year-by-year inflation index referenced on p. IV-17.
124. Please provide all studies, analyses, or other documents (including but not limited to e-mails) in SDG&E’s possession discussing, analyzing, or otherwise referring to the sensitivity of Gridview modeling of Sunrise or alternatives to it, with regard to each of the following items mentioned on p. IV-19:

- a. Miguel substation 500/230 kV transformer banks
 - b. The quantity of new renewable, combined cycle or coal generation in the WECC or any particular portion of the WECC.
 - c. The difference in natural gas prices between the Arizona border and the Southern California load centers.
 - d. Heat rates of combined cycle plants.
125. Please supply any studies, analyses, or other documents in which SDG&E observes “that these effects are far reaching” (p. IV-19).
126. SDG&E asserts that the new generators listed in Tables IV-11, IV-12, and IV-13, together with existing generating capacity, result in the planning reserve margins shown in Table IV-3 (p. IV-20). Please explain:
- a. Is the 185 Mw “SaltGeo” facility, which appears in Table IV-14 but not in any of Tables IV-11, -12, or -13, considered by SDG&E to be an existing generator or a new generator?
 - b. What is/was the on-line date for “SaltGeo”?
 - c. Is “SaltGeo included in Table IV-3? If so, on which line?
 - d. Why is IID shown in Table IV-3 as part of a group of utilities with only a 15% planning reserve margin when Table IV-12 (p. IV-6) shows IID generation additions of 2544 Mw for a utility with load far lower than that?
 - e. To which of LADWP, PG&E, or SCE are each of the generator additions listed on Table IV-11 under “LADWP, PG&E, SCE” expected to belong?

Data Requests re: Chapters V-VI

127. Chapter I-1 contains an assertion that the Barre-Ellis line cannot be reconducted to carry more than 1613 MVA under emergency conditions (p. 46).
- a. What is the conductor type and size on Barre-Ellis and Del Amo-Ellis
 - b. How many conductors per phase do the Barre-Ellis and Del Amo-Ellis lines have?
 - c. Are the Barre-Ellis and Del Amo-Ellis lines on a common tower, separate single circuit towers, or separate double-circuit towers south of Barre substation?

- d. If Barre-Ellis was reconductored with 3M corporation bundled 1033 ACCR conductor, please provide any evidence SDG&E has that the resulting line would be limited to less than 1712 Mw of carrying capacity under normal conditions (see the 5/16/05 filing in A.05-04-015 (Devers-Palo Verde 2 CPCN) entitled “Response of 3M Composite Conductor Program to Edison’s Application for DPV-2 CPCN,” p. 5).
 - e. What would the maximum emergency capability of the Barre-Ellis line be if reconductored with the maximum size ACCR conductor feasible using the existing towers and G.O. 95 constraints?
 - f. What is the length of the Barre-Ellis line?
 - g. What is the length of the Del Amo-Ellis line?
 - h. How close does the existing Del Amo-Ellis line pass to the Barre-substation?
 - i. What is the estimated cost per mile to reconductor the Barre-Ellis line be if reconductored with the maximum size ACCR conductor feasible using the existing towers and G.O. 95 constraints?
 - j. Please provide SDG&E’s best estimate of what the Path 44 north-to-south normal and emergency limits would be (in Mw) if
 - i. the Barre-Ellis line were reconductored with the maximum size ACCR conductor feasible using the existing towers and G.O. 95 constraints?
 - ii. both the Barre-Ellis and Del Amo-Ellis lines were reconductored with the maximum size 3M ACCR conductor feasible using the existing towers and G.O. 95 constraints?
 - iii. the Serrano-SONGS line were reconductored with the maximum size 3M ACCR conductor feasible using the existing towers and G.O. 95 constraints?
 - iv. both the Chino-SONGS line and the Serrano-SONGS line were reconductored with the maximum size 3M ACCR conductor feasible using the existing towers and G.O. 95 constraints?
 - v. the Chino-SONGS, Serrano-SONGS, Barre-Ellis, and Del Amo-Ellis lines were all reconductored with the maximum size 3M ACCR conductor feasible using the existing towers and G.O. 95 constraints?
128. Please identify and explain the basis for any difference between SDG&E’s assumptions regarding IID transmission system changes in 2010 and 2015, and the IID transmission system changes shown by the CAISO in <http://www.caiso.com/1832/1832990c72790.pdf>, p. 17 of 57.

129. For each of the following new generators listed by the CAISO in its description of its Sunrise modeling assumptions (<http://www.caiso.com/1832/1832990c72790.pdf>, p. 24 of 57), please indicate the year (if any) in which SDG&E assumed that generator would be on line, and SDG&E's justification for any differences between its modeling assumptions and those of the CAISO:
- Contra Costa 8, 530 Mw combined cycle
 - Russell City, 600 Mw combined cycle
 - El Segundo repower, 630 Mw combined cycle (may correspond to the 587 Mw "Elsegun" combined cycle on p. IV-5 of Appendix IV)
 - 200 Mw generation project connected to the Herndon-Kearny 230 KV line.
 - 410 Mw generation project connected to the Panoche 230 kV bus.
 - 715 Mw generation project connected to the Vaca Dixon 230 kV system." (This is the Colusa combined cycle project).
130. Please identify and explain the basis for any difference between SDG&E's assumptions regarding future generation retirements, and the generation retirements shown by the CAISO in <http://www.caiso.com/1832/1832990c72790.pdf>, pp. 26-27 of 57.
131. Please identify and **explain the basis for** any difference between SDG&E's assumptions regarding transmission path ratings, and the transmission path ratings shown by the CAISO in <http://www.caiso.com/1832/1832990c72790.pdf>, p. 28 of 57.
132. Please identify and **explain the basis for** any difference between SDG&E's assumptions regarding typical generation data, and the typical generation data shown by the CAISO in <http://www.caiso.com/1832/1832990c72790.pdf>, p. 45 of 57.
133. The WECC peak demand and forecasts for 2015 used by SDG&E (per Tables IV-24 and IV-25) and the CAISO (per <http://www.caiso.com/1832/1832990c72790.pdf>, p. 46 of 57) are identical for 28 out of 32 regions listed, and less than ½% different for one other region. Please identify and **explain the basis for** the large differences between SDG&E's assumptions regarding 2015 peak loads, and the data shown by the CAISO, for:
- Alberta
 - British Columbia
 - LADWP
134. Please identify and **explain the basis for** any difference between SDG&E's assumptions regarding generation resources owned or contracted to CAISO PTOs, and the CAISO's assumptions as shown by the CAISO in <http://www.caiso.com/1832/1832990c72790.pdf>, p. 56 of 57.
135. Please explain whether and how much customer costs for generation delivered to the CAISO from resources under CERS contracts in 2010 will be affected by changes in:

- a. LMPs for those resources
 - b. Changes in producer surplus for those resources
136. Please explain whether and how much SDG&E's purchase price for any of its Imperial Valley resources currently under contract (Esmerelda and Stirling, per Table III-1) will be affected by changes in:
 - a. Imperial Valley LMPs
 - b. Changes in producer surplus for those projects
137. Please explain whether and how much SDG&E's purchase price for any of its wind resources currently under contract (as listed in Table III-1) will be affected by changes in:
 - a. LMPs for those generators
 - b. Changes in producer surplus for those projects
138. Please list any generator not listed on p. 56 of <http://www.caiso.com/1832/1832990c72790.pdf>, of which SDG&E is aware, whose output is sold to a CAISO-area LSE for a price which is either fixed or cost-of-service (and thus insensitive to changes in LMP).
139. SDG&E reports that the Imperial-Central 500 KV line will have an "approximate 2000 MVA continuous rating" (p. V-1) and a "thermal powerflow capability greater than 2000 MW" (p. V-3). What are the ratings for each section of the Imperial-Central line (Imperial Valley-San Felipe and San Felipe-Central) under normal and emergency condition, as modeled by SDG&E in the analyses underlying its 8/4/06 filing. If different values were used for different purposes (e.g., for modeling underlying Chapter II and for modeling underlying Chapter IV), please report all values used and the purposes for which they were used.
140. Please explain why a 200 foot right of way is required for the "Desert Link" outside of ABDSP if a 150 foot right of way is sufficient inside ABDSP (p. V-5).
141. Section V.A. describes the proposed project in terms of four "Links" (p. V-2). Section V.B. describes the proposed routing for each "Link" (pp. V-3 to V-7). Section V.C. provides a table showing project costs (p. V-9). Please provide a revised table showing, for each line item in the table on p. V-9, how much of the costs for that line item are associated with:
 - a. the "Desert Link"
 - b. the "Central Link"
 - c. the "Inland Valley Link"
 - d. the "Coastal Link"
 - e. other physical facilities outside of the "Links" (e.g., San Luis Rey substation modifications)

142. SDG&E describes separate purposes of the proposed project as “Access, at an acceptable cost, renewable resources...” and “...improve access to economic resources.” (p. VI-1). For each of the years 2010 and 2015:
- a. define “economic resources”
 - b. identify the quantity of gas-fired “economic resources” which the Sunrise project will provide access to in:
 - i. Mexico
 - ii. California
 - iii. Arizona
 - iv. Nevada
 - v. New Mexico
 - vi. Elsewhere
 - c. identify the quantity of coal-fired “economic resources” which the Sunrise project will provide access to in:
 - i. Mexico
 - ii. California
 - iii. Arizona
 - iv. Nevada
 - v. New Mexico
 - vi. Elsewhere
 - d. identify the generating technology and quantity of “economic resources” which are neither gas-fired nor coal-fired which the Sunrise project will provide access to in:
 - i. Mexico
 - ii. California
 - iii. Arizona
 - iv. Nevada
 - v. New Mexico
 - vi. Elsewhere
143. SDG&E says it is “still working on the completion of the Otay Metro Powerloop” (p. VI-5).
- a. Is the Otay Metro Powerloop currently under construction?
 - b. When is the Otay Mesa Powerloop scheduled to enter commercial operation?
 - c. Is completion of the Otay Mesa Powerloop contingent on the construction of the Otay Mesa combined cycle powerplant, and if so, how?
144. SDG&E asserts that “The CAISO cannot have operational control of transmission lines in Mexico.” (p. VI-10) In regards to that statement, please identify:

- a. Who has operational control of the 230 kV transmission line from the Sempra TdM combined cycle plant to the Imperial Valley substation?
 - b. Who has operational control of the 230 kV transmission line from the Intergen export project at La Rosita to the Imperial Valley substation?
 - c. Who has operational control of the 230 kV linking the LR1 and LR2 projects which is referenced on p. 45 of Appendix I-1?
 - d. Who has operational control of the two 230 kV lines linking the La Rosita Plant to the La Rosita substation, which are referenced on p. 45 of Appendix I-1?
 - e. If it does not already have it, is it possible for Intergen to acquire operational control of the 230 kV linking the LR1 and LR2 projects which is referenced on p. 45 of Appendix I-1?
 - f. If it does not already have it, is it possible for Intergen to acquire operational control of the two 230 kV lines linking the La Rosita Plant to the La Rosita substation, which are referenced on p. 45 of Appendix I-1?
 - g. Are the Sempra TdM combined cycle plant and the Intergen export project subject to Participating Generator Agreements with the CAISO?
 - h. To the best of SDG&E's knowledge, does the CAISO consider the Sempra TdM combined cycle plant and the Intergen export project to be within its control area?
 - i. To the best of SDG&E's knowledge, does the CAISO consider the Sempra TdM combined cycle plant and the Intergen export project to be within SP15?
145. Please provide any documents or other bases for the assumptions shown in each of footnotes (1) and (2) on p. IV-12 of Appendix IV?
146. Is SDG&E committed to proceeding with AMI implementation if it receives "long-term financial commitments from regulatory bodies" (p. IV-15 of Appendix IV)?
147. Please explain which "regulatory bodies" SDG&E requires "long-term financial commitments from" in order to proceed with AMI (p. IV-15 of Appendix IV).
148. SDG&E says that "because the CAISO is unwilling to count DR as being available for meeting local area reliability requirements, an AMI alternative fails ..." (p. VI-20).
- a. Is it SDG&E's position that if AMI is implemented as proposed in SDG&E's AMI business case filing of March 2006, the CAISO will still not count AMI impacts in the year 2015?

- b. Please provide any communications between the CAISO and SDG&E reflecting an SDG&E request for the CAISO to account for AMI impacts, or a CAISO refusal to count AMI impacts on loads in load forecasts, or a CAISO refusal to count AMI impacts on loads in CAISO reliability analyses.
 - c. Is it SDG&E's position that if the CPUC believes AMI programs will provide reliability benefits but the CAISO refuses to count those benefits then the CPUC should approve expenditures by SDG&E to provide duplicative benefits?
149. Table VI-3 has partial data for the year 2007 only (p. VI-23). Please indicate, for each of the years 2007-2016, the number of Mw of peak load reduction that SDG&E expects to be able to attain (in its own estimation, not that of the CPUC or the CAISO):
- a. From AMI (business case expected value).
 - b. From existing day-ahead demand response programs.
 - c. From future day-ahead demand response programs other than AMI.
 - d. From existing non-dispatchable day-of demand response programs.
 - e. From future non-dispatchable day-of demand response programs.
 - f. From existing dispatchable day-of demand response programs.
 - g. From future dispatchable day-of demand response programs.
150. For each non-zero response to the previous question, please indicate how many of the Mw identified are already counted in the next-to-last line on the last page of Table II-3 labeled "Net Peak Demand (90/10)".
151. Table VI-4 shows the "Economics of In-Area Combined Cycle Alternative" and includes a combined cycle "generation revenue requirement" of \$104 million (levelized dollars per year) and a combined cycle "transmission revenue requirement" of \$32 million (levelized dollars per year) (p. VI-31).
- a. Please provide all workpapers underlying this table, in Excel format where available.
 - b. What year dollars does the table use?
 - c. Please provide the annual values underlying each of the levelized figures shown.
 - d. Please explain why a merchant combined cycle would be entitled to recovery of a "generation revenue requirement" and a "transmission revenue requirement" in addition to any LMP-based energy revenues and any RMR revenues it might receive.
 - e. Please explain why a utility-owned combined cycle would cause CAISO ratepayers to incur any net RMR costs or any energy costs in excess of cost-of-service.
 - f. Did SDG&E assume the combined cycle plants evaluated in Table VI-4 were merchant projects, utility owned projects, or utility-controlled (via contract) projects?
 - g. Please provide the share of the \$194 million generation revenue requirement and the \$32 million transmission revenue requirement in Table VI-4 attributable to

- b. Any fixed costs of owning and operating the Encina and Sycamore combined cycle plants which are not included within the “generation revenue requirement” and “transmission revenue requirement” shown in Table VI-4.
- c. The RMR costs assumed to be paid annually to the Sycamore combined cycle owners, and each of the Encina combined cycle owners, in SDG&E’s calculation of RMR savings for the “RMR savings” line of Table VI-4.
- d. Any evidence in SDG&E’s position that if Encina and Sycamore Canyon combined cycle owners received the combined cycle revenue requirements shown in Table VI-4, and the producer surplus calculated for them in the Gridview runs underlying Table VI-6, and the RMR payments calculated for them in the analysis underlying Table VI-4, that the economic viability of the new Encina and Sycamore Canyon combined cycles would be “highly uncertain.”

Miscellaneous subjects

156. Please briefly identify all short-listed proposals to SDG&E in its 2007-09 all-source RFO which involve new projects (generation or demand-based) located within the SDG&E service area.
157. SDG&E’s 2007-09 all-source RFO indicates that an RFO for 2010 and beyond will be issued at a future date. Please identify the approximate date when SDG&E intends to issue a post-2009 RFO, and the approximate date when SDG&E intends to sign any contracts resulting from such an RFO.
158. Does SDG&E expect to sign any contracts for post-2009 generation resources prior to a CPUC decision in this proceeding? If so, please indicate when and for what resources.
159. Please provide the workpapers for your 8/4/06 filing.
160. With regard to 3M Corporation’s ACCR conductor technology, please:
 - a. confirm SDG&E Vice President Avery’s public representation that SDG&E has been working with 3M corporation on ACCR technology, and describe the nature of that work.
 - b. identify all SDG&E 230 kV transmission line segments for which SDG&E (or 3M, or a contractor) has analyzed the economic and/or reliability benefits of reconductoring all or part of the segment using 3M corporation ACCR conductor.
 - c. provide the analysis SDG&E has conducted or had contracted for it.
 - d. provide any documents in SDG&E's possession describing or discussing the analysis.

161. If UCAN requests a sensitivity case for one or more of the Gridview cases (100,101,104) does SDG&E have access to LADWP descriptions of the proposed IID-LADWP 500kv interconnection (to WECC or elsewhere) sufficient to allow SDG&E to perform such sensitivity analyses?
- a. If not, what data would SDG&E require to be able to include the proposed 500kv line in a sensitivity study.
 - b. If SDG&E has, or UCAN provides, the necessary data, is SDG&E willing to perform such an analysis.
162. Please provide an accounting of all mass media (electronic and print media) expenses relating to SDG&E's efforts to educate the public about this proposal from December 2005 through August 1, 2006. This accounting should incorporate all media buys and consultant costs and should show the total amount along with the identity of each vendor and the amount paid, thus far, to each vendor.
163. Please provide SDG&E's estimated 2006-2007 budget for mass media expenses, as identified in its response question 162 above.
164. Please provide an accounting of all public relations expenses relating to SDG&E's efforts to educate the public about this proposal December 2005 through August 1, 2006. This accounting should incorporate all polling, message formulation, focus groups, "education" events and the related consultant costs for these activities. Please provide this information by showing the total amount along with the identity of each vendor and the amount paid, thus far, to each vendor
165. Please provide SDG&E's estimated 2006-2007 budget for public relations expenses, as identified in its response question 162 above.