

Rulemaking: 12-03-014

Exhibit No.: SC-X-SDG&E-

Commissioner: Michel Florio

ALJ: David Gamson

Order Instituting Rulemaking to Integrate  
and Refine Procurement Policies and  
Consider Long-Term Procurement Plans.

Rulemaking 12-03-014 (DMG)  
(Filed March 22, 2012)

**DRA-CEJA-Sierra Club DATA REQUEST  
DRA-SDG&E-DR-02  
SDG&E LTPP – TRACK 4 – R.12-03-014  
SDG&E RESPONSE  
DATE RECEIVED: SEPTEMBER 6, 2013  
DATE RESPONDED: SEPTEMBER 19, 2013**

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

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1. Does WECC consider non-critical load shedding an acceptable mitigation measure for Category C contingencies? Does SDG&E agree that load shedding events of up to 300 MW do not require filing a report with WECC?

**SDG&E Response 01:**

WECC reliability criteria permit non-consequential loss of load for NERC Category C contingencies. A report of an uncontrolled loss of 300 MW or more of firm system load (or 10% of the total system load, whichever is less) from a single incident to WECC is required; however, involuntary load shedding of 100 MW or more implemented under emergency operation policy also requires a WECC report.

Note that NERC, WECC, CAISO, and SDG&E do not distinguish between ‘critical’ and ‘non-critical’ load. SDG&E treats all customer load as firm load.

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2. Has SDG&E conducted any studies to evaluate the relative cost-effectiveness of noncritical load shedding in place of the cost of new generation? If so, please provide them.

**SDG&E Response 02:**

SDG&E has not conducted any studies quantifying the cost effectiveness of load-shedding versus new in-basin generation resources. Also NERC, WECC, CAISO, and SDG&E do not distinguish between ‘critical’ and ‘non-critical’ load.

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3. The list of major generation sources modeled by SDG&E includes two combined cycle units and eleven 50 MW combustion turbines. Did SDG&E also model ~200 MW of QF cogen plants in the San Diego load pocket? Did SDG&E model ~600 MW of distributed PV identified by SDG&E's Anderson as online in SDG&E territory by 2020 (See R. Anderson – SDG&E, *Resource Update for SANDAG EWG*, July 28, 2013).

**SDG&E Response 03:**

SDG&E modeled the existing local QF resources, to the extent that they are expected to still be in service in 2022. As noted in Mr. Anderson testimony on page 9, 88 MW of QF resources were model as retired.

Regarding the SANDAG presentation, the distributed PV data used for this slide was theoretical in nature and used to illustrate directional movements and how the needs of the grid will change over time. The key point being that the need for resources will be driven by evening peaks, when solar is not available. What SDG&E modeled for distributed PV is explained in the testimony of Mr. Anderson (pp.6-7).

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4. Describe the modeled capacity of “*Theoretical generation i) “Coastal” generation modeled at the Encina 230 kV bus*”. Explain why this generation was modeled at the Encina 230 kV bus.

**SDG&E Response 04:**

The amount of generation modeled at the “Coastal” site for each generation and transmission scenario may be found in the workpapers supporting Mr. Jontry’s opening testimony (see the Excel spreadsheet entitled, “Summary\_LTPP\_trk4\_AllAlts.xlsx”, row 15).

Generally, the locations selected to model the “theoretical” generation fall into two categories:

- a. They have been the sites of significant generation, and have sufficient existing high-voltage transmission to allow for interconnection of the modeled generation without generating extraneous thermal overloads (the “Coastal” generation at Jontry 5:23),
- b. They have been discussed as locations for possible future generation development (the “North County” and “Southwest San Diego” generation at Jontry 6:1-4).

Locating 1400+ MW of generation at a single location in the San Diego transmission system would likely cause extraneous thermal overloads; a more effective and reasonable analysis was to spread the generation over the transmission system.

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5. Please describe any CAISO or WECC transmission planning standard or requirement that validates this SDG&E assumption regarding load shedding in response to a Category C contingency: *“For the analysis that examined the N-1-1 of ECO-Miguel and Ocotillo Express-Suncrest 500 kV lines as the limiting contingency, a load-shedding Special Protection Scheme (SPS) was not assumed to be allowed.”*

**SDG&E Response 05:**

Please see the testimony of Robert Sparks on Behalf of the California Independent System Operator Corporation R.12-03-014, pg. 21, lines 3-8. Therein, Mr. Sparks states,

“Similar to the year 2018 Without SONGS study results, the primary reliability concern that drives the resource needs in the SONGS Study Area is the post-transient voltage instability concern due to overlapping Category C outage of the Sunrise Powerlink, system readjusted, then followed by the Southwest Powerlink line. This is the most critical outage that affects reliability of the SONGS study area.”

The study results presented by Mr. Sparks reflects the use of the N-1-1 as the limiting contingency. Mr. Sparks does not indicate that load shedding, which is permitted for an N-1-1 contingency under the NERC planning criteria, is used to mitigate this particular contingency in the CAISO analysis. This is consistent with Mr. Sparks testimony in the “Product 2” proceeding (A.11-05-023), where he stated,

“With the more likely N-1-1 contingency we did not think it would be prudent to plan the system that would rely on [a] load shedding SPS.”

(see A.11-05-023, Supplemental Testimony of Robert Sparks on Behalf of the California Independent System Operator Corporation, pg. 4, lines 13-14).

As stated in Mr. Jontry’s opening testimony,

“Ultimately, the CAISO is the Transmission Planning Authority for the San Diego transmission system, and has the responsibility and authority to set and meet the planning criteria” (Jontry 8;1-3)

SDG&E does not necessarily agree or disagree with the use of the N-1-1 as the limiting contingency without allowance for load shedding. SDG&E merely notes that, as stated in Mr. Jontry’s opening testimony (Jontry 7:5-8) that the N-1-1 is a NERC Category C contingency and that loss of non-consequential load is permitted as a mitigation for this type of contingency. The purpose of the analysis in Mr. Jontry’s testimony is to apply the same planning standard as used by CAISO witness Robert Sparks to determine the generation need for San Diego and West L.A. Basin, for the purpose of comparison with the CAISO’s results and the results that may be obtained from a less stringent G-1/N-1 criteria.

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6. As SDG&E notes, load shedding is allowable for the N-1-1 under CAISO standards but not the G-1/N-1. What is the reason for SDG&E presenting N-1-1 scenarios with no load shedding?

**SDG&E Response 06:**

See response to Question 5.

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9. Explain discrepancy between modeling 351 MW of behind the meter PV in 2022 and your estimate of 600 MW of distributed PV operational in SDG&E territory in 2020 (See R. Anderson – SDG&E, *Resource Update for SANDAG EWG*, July 28, 2013).

**SDG&E Response 09:** See response to Question 3.



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10. Identify maximum non-critical load shedding potential in MW for SDG&E service territory in 2022. Identify the basis for the load shedding value.

**SDG&E Response 10:**

As stated in the response to Question 1, NERC, WECC, CAISO, and SDG&E do not distinguish between ‘critical’ and ‘non-critical’ load. SDG&E treats all customer load as firm load.

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11. “*The Navy has indicated that it does not plan to renew these (88 MW of QF cogen) contracts when they expire in 2019.*” Who at the Navy provided this indication to SDG&E? Provide any written document that supports this alleged future action by the Navy. Identify what resources the Navy will use to substitute for the 88 MW of CHP that the Navy will release in 2019. Will the Navy become the owner of these facilities, and therefore continue to operate them not as QF contract sites but as Navy-owned facilities providing the same 88 MW?

**SDG&E Response 11:**

SDG&E has requested, but the Navy has declined to provide consent for disclosure of the customer-specific information requested above. SDG&E notes that its assumption regarding availability of the Navy CHP resource was made for forecasting purposes and that the final decision will be made by the Navy at a later date. Thus, as is the case with many of the forecast assumptions included in SDG&E’s analysis, the ultimate outcome regarding availability of this CHP resource may differ from what was assumed by SDG&E. Even if the Navy’s CHP resource remains in operation, however, SDG&E’s request for interim procurement authority of 500-550 MW would not be impacted.

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12. If the secondary evening peak is several 100s of MW lower than the current hot summer afternoon peak, what is the basis for asserting “*the grid is experiencing a shift where the need for new resources is being driven by evening loads.*” SDG&E uses the CEC’s projected 2022 1-in-10 year peak load for SDG&E territory of 6,056 MW. Is SDG&E asserting that this 6,056 MW load is the “net load” expected between 7 and 10 pm, or that this is the theoretical afternoon peak that would occur but for the large growth in behind the-meter PV, and that the actual net peak load will be in the range of 5,500 MW and will occur between 7 and 10 pm in 2022?

**SDG&E Response 12:**

SDG&E’s testimony states on page 15, line 6 that the “net peak” is the demand from customers minus renewable resources output.” The renewable resource output includes both behind the meter renewables and those in the wholesale market. It is this “net peak” that will move into the evening hours.

The CEC’s current load forecast includes some behind the meter renewables, and is currently occurring in the SDG&E service area between 4:00 and 5:00 PM. The CEC’s load forecast is for the late afternoon peak and is not the “net peak.” The CEC load forecast will move into later hours of the day as more and more rooftop PV is assumed in the forecast. The evening loads will be lower than that single highest hour, assuming the 90% ration holds, then it would be around 5,500 MW.

However reliability is also impacted by having resources available to meet the loads, during all hours. As the testimony points out, on the supply side SDG&E will have approximately 1,400 MW of solar resources on the supply side. These resources will be producing at partial load at the time of the highest loads, currently 4:00 – 5:00, but will not be producing during the evenings. Thus the supply of resources available to meet loads will be decreasing. The “net peak” calculated to see the net impact of both changes in demand and supply

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13. Page 12 of Mr. Anderson's testimony states that "SDG&E has reduced the proposed capacity amount of the RFO to below the 620 MW need identified in order to account for possible growth in demand response with the characteristics needed to address local grid reliability needs." Since SDG&E proposes the RFO to be for between 500-550 MW, it appears that the possible growth in demand response that would meet LCR needs is between 70 and 120 MW.
- a. Please describe in detail how you arrived to the estimate of demand response capable of reducing LCR needs. Include any workpapers or references used in your determination.
  - b. What steps is SDG&E proposing to take to ensure that the 70 to 120 MW of LCR quality demand response is realized?

**SDG&E Response 13:**

- a. The 500 - 550 MW that SDG&E proposes was selected since it represented a likely amount of local capacity that will be needed in most cases. The difference between the 620 MW and the amount SDG&E requested was not intended solely to represent the potential for demand response, rather it accounts for the uncertainty that exists in many of the assumptions.
- b. As stated in the testimony of Mr. Anderson (p. 4), SDG&E submits that all cost-effective demand response should be pursued in the Commission's dedicated demand response proceeding. SDG&E has not placed a cap or specific target on the megawatts that will be cost-effective and will count towards meeting local capacity requirements

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14. Page 12, footnote 12, of Mr. Anderson's testimony, states that "SDG&E only has 20 MW of DR that can respond to dispatch instructions within 30 minutes or less, including notification time to customer."
- a. Why did you choose not to include these 20 MW in your demand response inputs in Table 1 at page 7?
  - b. Are these 20 MW in addition to the 70 to 120 MW of possible growth in LCR quality demand response?

**SDG&E Response 14:**

- a. SDG&E did not model the demand response since it is relatively small and it is difficult to determine the time-specific location in the service area where the load reductions will take place.
- b. As noted in response to Question 14, SDG&E did not provide a specific forecast of the amount of demand response that might eventually be developed that would count towards local capacity requirements.

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15. Page 11, line 21 of Mr. Anderson’s testimony states that “...a total of between 620 and 1,470 MW of dependable capacity could be needed in the San Diego area. SDG&E has identified that a major transmission addition could potentially reduce that need for dependable capacity by between 1,000 and 1,400 MW in 2022 (assuming the transmission facilities could be licensed and built by that time).”
- a. What major transmission line is SDG&E referring to?
  - b. Is this transmission line included in the list of transmission projects SDG&E has submitted or plans to submit as part of the 2013 – 2014 Transmission Planning Process (TPP) or another TPP?
  - c. When taking this transmission line into consideration, what is SDG&E’s residual LCR need or dependable capacity needed in the San Diego area?
  - d. If the inclusion of this transmission line eliminates the need for new dependable capacity in the San Diego area, how does SDG&E arrive at its request for 500 – 550 MW of local capacity

**SDG&E Response 15:**

- a) SDG&E is referring to the two transmission alternatives discussed in Mr. Jontry’s opening testimony (See Mr. Jontry’s opening testimony, Part III, sections G and H).
- b) SDG&E plans to submit several high-voltage transmission alternatives to the 2013/2104 Reliability Project Window. Two of those projects will be electrically equivalent to the projects described in Mr. Jontry’s opening testimony.
- c) See Tables 1 and 2 in Mr. Jontry’s opening testimony.
- d) See Tables 1 and 2 in Mr. Jontry’s opening testimony. Neither transmission alternative completely eliminates the need for additional generation in the San Diego LCR Sub-Area.