

**SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY
LOW OPERATIONAL FLOW ORDER &
EMERGENCY FLOW ORDER REQUIREMENTS
(A.14-06-021)**

(3RD DATA REQUEST FROM SOUTHERN CALIFORNIA GENERATION COALITION)

QUESTION 3.1:

The questions in this data request are all directed at the Prepared Direct Testimony of Steve Watson:

3.1. Regarding the testimony at page 1, lines 10-13, which states: “In December 2013 and again in February 2014, SoCalGas and SDG&E had to curtail standby procurement service.¹ During the February period, SoCalGas and SDG&E had to go further and institute emergency curtailment of electric generation (EG) customers on February 6 and 7.” Footnote1 reads: “The curtailment of standby procurement service occurred between December 6-11, 2013, and February 6-10, 2014.”

Below are two excerpts from Envoy daily operating data:

Gas Flow date	Total Receipts	System Sendouts	Total Deliveries	Net Injections / (Withdrawals)	Ending Storage Balance	Total Daily Customer Imbalance	Cumulative Customer Imbalance	Storage Wdr for Cust Balancing	Transmission Fuel Use	Composite Weighted Avg Temp
12/1/2013	2719000	2454000	2454000	240000	123929000	345942	-378854	345942	7883	57
12/2/2013	2814000	3039000	3039000	-328000	123619000	-171207	-582310	-171207	8158	56
12/3/2013	2647000	3222000	3222000	-498000	123126000	282613	-300445	282613	7674	50
12/4/2013	2398000	3986000	3986000	-1577000	121588000	-186472	-505223	-186472	6952	46
12/5/2013	1850000	4475000	4475000	-2490000	119150000	-632962	-1165200	-632962	5363	46
12/6/2013	1616000	4329000	4329000	-2832000	116385000	-196811	-1359711	-196811	4685	48
12/7/2013	1651000	4287000	4287000	-2647000	113800000	312325	-1070332	312325	4786	44
12/8/2013	1970000	4524000	4524000	-2524000	111327000	413552	-687344	413552	5711	43
12/9/2013	1891000	5011000	5011000	-2986000	108408000	-28815	-757204	-28815	5482	46
12/10/2013	2286000	4539000	4539000	-2456000	106023000	171269	-590954	171269	6627	49
12/11/2013	2152000	4200000	4200000	-2100000	103978000	128417	-469095	128417	6239	51
12/12/2013	2213000	3970000	3970000	-1636000	102386000	518276	35387	518276	6416	50
12/13/2013	2148000	3847000	3847000	-1718000	100716000	134913	157064	134913	6227	53
12/14/2013	2245000	3257000	3257000	-1028000	99717000	322224	467817	322224	6508	55

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Gas Flow date	Total Receipts	System Sendout	Total Deliveries	Net Injections/(Withdrawals)	Ending Storage Balance	Total Daily Customer Imbalance	Cumulative Customer Imbalance	Storage Wdr for Cust Balancing	Transmission Fuel Use	Composite Weighted Avg Temp
2/1/2014	2153000	3283000	3283000	-1268000	55650000	-940589	-1038064	-940589	6089	50
2/2/2014	2088000	3461000	3461000	-1453000	54227000	373669	-687090	373669	5905	51
2/3/2014	2023000	3633000	3633000	-1591000	52669000	-325750	-1022028	-325750	5721	51
2/4/2014	1322000	3768000	3768000	-2352000	50530000	224629	-637892	224629	3739	52
2/5/2014	952000	3645000	3645000	-2642000	47792000	-85211	-865743	-85211	2692	53
2/6/2014	1195000	3787000	3787000	-2602000	45248000	385579	-481030	385579	3380	54
2/7/2014	1575000	3305000	3305000	-1783000	43505000	585299	126697	585299	4454	57
2/8/2014	1494000	2781000	2781000	-1332000	42203000	729606	800269	729606	4225	59
2/9/2014	1466000	2790000	2790000	-1336000	40893000	438225	1178574	438225	4146	60
2/10/2014	1493000	3024000	3024000	-1556000	39368000	280776	1398420	280776	4222	59
2/11/2014	1611000	2982000	2982000	-1303000	38090000	-100830	1284300	-100830	4556	60
2/12/2014	1592000	2806000	2806000	-1214000	36898000	-121430	1149931	-121430	4502	63
2/13/2014	1743000	2686000	2686000	-916000	35998000	-241972	897775	-241972	4929	63
2/14/2014	2026000	2638000	2638000	-576000	35437000	-102008	795909	-102008	5730	62
2/15/2014	2277000	2439000	2439000	-312000	35135000	-174830	611176	-174830	6440	62

- 3.1.1. Why did SoCalGas/SDG&E curtail standby procurement service on February 6, 2014, when the daily imbalance level was +385,579 dth and the cumulative imbalance level was -481,030 dth instead of an earlier day in the month, for example, February 3, 2014, when the daily imbalance level was -325,750 dth and the cumulative imbalance level was -1,022,028 dth?
- 3.1.2. Referring specifically to the details of the daily operating data, please explain why SoCalGas/SDG&E found it necessary to curtail transportation service to EG customers on February 6-7, 2014, when there was no curtailment in December 2013 under seemingly more adverse operating conditions.
- 3.1.3. Please identify all factors that made it necessary to curtail transportation service to EG customers on SoCalGas/SDG&E's systems on February 6-7, 2014.
- 3.1.4. What time did the curtailment start on February 6, 2014 on SoCalGas' system?
- 3.1.5. What time did the curtailment end on February 7, 2014 on SoCalGas' system?
- 3.1.6. What time did the curtailment start on February 6, 2014 on SDG&E's system?
- 3.1.7. What time did the curtailment end on February 7, 2014 on SDG&E's system?

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- 3.1.8. How much volume does SoCalGas/SDG&E estimate was curtailed on the combined systems on February 6, 2014?
- 3.1.9. How much volume does SoCalGas/SDG&E estimate was curtailed on the combined systems on February 7, 2014?
- 3.1.10. On February 6-7, 2014, did SoCalGas follow the curtailment steps set forth in its Rule 23, Section C.1, and curtail the services described in Section C.1 (2) All Interruptible Off-system Delivery service through Section C.1 (5) All interruptible intrastate service prior to curtailing any firm transportation service to EG customers under Section C.1 (6)?
- 3.1.11. If the answer to the previous question is “no,” please describe in detail the curtailment steps that SoCalGas followed on February 6-7, 2014.
- 3.1.12. Did SoCalGas curtail transportation service to all EG customers on its system on February 6-7, 2014?
- 3.1.13. If the answer to the previous question is “no:”
 - 3.1.13.1. Did SoCalGas curtail any firm EG customers?
 - 3.1.13.2. If the answer to the previous question is “yes,” did SoCalGas follow the curtailment steps set forth in its Rule 23, Section C.2 in determining which firm EG customers would be curtailed?
 - 3.1.13.3. If the answer to the previous question is “yes,”
 - 3.1.13.3.1. Did SoCalGas curtail EG customers using a list of EG customers in an order “established by lottery or other nondiscriminatory means” as described in Rule 23, Section C.2?
 - 3.1.13.3.2. If the answer to the previous question is “no,” please describe in detail the process that SoCalGas used to determine the order of customers that were curtailed on February 6-7, 2014.
- 3.1.14. Did SoCalGas find it necessary to curtail cogeneration customers in addition to EG customers?
- 3.1.15. On February 6-7, 2014, did SDG&E follow the curtailment steps set forth in its Rule 14, Section M, and curtail the services described in Section

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- M.1.a(2) or M.1.b (2) Interruptible Noncore Transportation Service prior to curtailing any firm transportation service to EG customers under Section M.1.a (3) or M.1.b.(3)? Please indicate which section SDG&E followed.
- 3.1.16. If the answer to the previous question is “no,” please describe in detail the curtailment steps that SDG&E followed on February 6-7, 2014.
- 3.1.17. Did SDG&E curtail transportation service to all EG customers on its system on February 6-7, 2014?
- 3.1.18. If the answer to the previous question is “no:”
- 3.1.18.1. Did SDG&E curtail any firm EG customers?
 - 3.1.18.2. If the answer to the previous question is “yes,” did SDG&E follow the curtailment steps set forth in its Rule 14, Section M.1.b(3) in determining which firm EG customers would be curtailed?
 - 3.1.18.3. If the answer to the previous question is “yes,”
 - 3.1.18.3.1. Did SDG&E curtail EG customers using a list of EG customers in an order “established by lottery or other nondiscriminatory means” as described in Rule 14, Section M.1.b(3)?
 - 3.1.18.3.2. If the answer to the previous question is “no,” please describe in detail the process that SDG&E used to determine the order of customers that were curtailed on February 6-7, 2014.
- 3.1.19. Did SDG&E find it necessary to curtail cogeneration customers in addition to EG customers?

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RESPONSE 3.1.1:

SoCalGas and SDG&E curtailed standby procurement service on February 6 because projected EG burn was much higher than forecast. Balanced daily operating data for February 6 shows that curtailment orders including the order to curtail standby procurement service issued by SoCalGas and SDG&E issued on February 6 in compliance with SoCalGas Rule 23 and SDG&E Rule 14 were successful.

Please note that Envoy daily operating data is not a forecast of pending daily activity that could be used for decision making purposes. It simply reports the results of system operations each day.

RESPONSE 3.1.2:

SoCalGas/SDG&E found it necessary to curtail transportation service to EG customers on February 6-7 because projected EG burn was much higher than forecast. Available system supply was insufficient to cover projected dispatch so curtailments under the emergency provisions of SoCalGas Rule 23 and SDG&E Gas Rule 14 were ordered to bring the respective systems back into balance.

RESPONSE 3.1.3:

There were a number of factors that made it necessary to curtail transportation service to EG customers on February 5-7, 2014, the most important being the lack of an effective tool available to address lower scheduled deliveries resulting from negative price spreads that will be available when the Low OFO and EFO proposals are approved and implemented.

Other underlying factors included a) low average temperatures across the Lower 48 that created higher demand and negative spreads between Southern California and upstream supply zones; b) outages at Diablo Canyon; c) lower gas production due to frigid weather; and d) better coordination with electric grid operators.

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RESPONSE 3.1.4:

The Emergency Localized Southern System Curtailment and the SDG&E system curtailment began at 6:45 A.M. February 6 and ended at 12 A.M. February 7.

The curtailment of Standby Procurement Service on the SoCalGas and SDG&E systems began at 8 A.M. February 6 and ended at 11:59 P.M. February 10.

The Emergency Curtailment was extended to the rest of the SoCalGas system beginning at 1 P.M. February 6 and ended at 7 A.M. February 7.

RESPONSE 3.1.5: See Response 3.1.4

RESPONSE 3.1.6: See Response 3.1.4

RESPONSE 3.1.7: See Response 3.1.4

RESPONSE 3.1.8:

Approximately 300 MMcf was curtailed on both systems for the duration of the Emergency Curtailment. Most of this reduction occurred on February 6 since the curtailment on the Southern System and SDG&E ended at midnight February 7 and at 7 AM February 7 for the rest of the SoCalGas system.

RESPONSE 3.1.9: See Response 3.1.8

RESPONSE 3.1.10: No.

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RESPONSE 3.1.11:

At approximately 6:20 A.M. SoCalGas and SDG&E determined that as a result of an increasing EG burn projected to be much higher than forecast that an emergency curtailment was required. Effective 6:45 A.M. February 6 SoCalGas and SDG&E (1) ordered the full curtailment of gas flow to one large SDG&E EG customer to prevent imminent curtailment of higher priority gas customers; and (2) limited all other large EG customers on the SoCalGas Southern System and SDG&E system to hold to their current load.

This curtailment was ordered in compliance with SDG&E Rule 14.N and SoCalGas Rule 23.E & F.

Effective 8 A.M. February 6 SoCalGas and SDG&E curtailed Standby Procurement Service for all transportation customers.

By 10 A.M. on February 6, based on gas supplies, load demand, and system conditions, it was determined that there was a 150 MDth supply shortage on the SoCalGas system for this gas day. With no additional gas supplies scheduled into the SoCalGas system the decision was made to extend the Emergency Curtailment of Large EG customers to the rest of the SoCalGas system.

In order to maintain the integrity of both the SoCalGas system and the electric grid discussions were then conducted with the CAISO and LADWP to determine where and which EG plant curtailments would have the least impact to both the SoCalGas system and the electric grid. Once these decisions were made the Emergency Curtailment notice extending the curtailment to all large EG customers on the SoCalGas system was posted on Envoy effective at 1 P.M. on February 6.

RESPONSE 3.1.12:

No. Curtailment was limited to large EGs dispatched by CAISO and LADWP.

RESPONSE 3.1.13: See Response 3.1.12

RESPONSE 3.1.13.1: Yes

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RESPONSE 3.1.13.2: No.

RESPONSE 3.1.13.3.1: No.

RESPONSE 3.1.13.3.2: See Response 3.1.11

RESPONSE 3.1.14: No.

RESPONSE 3.1.15: No.

RESPONSE 3.1.16: See Response 3.1.11

RESPONSE 3.1.17:

No.

RESPONSE 3.1.18.1: Yes

RESPONSE 3.1.18.2: No

RESPONSE 3.1.18.3.1: No

RESPONSE 3.1.18.3.2: See Response 3.1.11

RESPONSE 3.1.19: No

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QUESTION 3.2:

- 3.1. Regarding Attachment A, page 11, which characterizes the curtailment as an “emergency localized curtailment for electric generation customers:”
- 3.1.1. Why was the curtailment on SoCalGas’ system considered to be a localized curtailment?
- 3.1.2. Was the curtailment on SoCalGas’ system considered to be “due to intrastate system capacity restrictions or emergencies”? (per Rule 23)
- 3.1.3. If the answer to the previous question is “yes,” please provide a detailed explanation of how the February 6-7, 2014, curtailment was due to intrastate system capacity restrictions or emergencies providing reference to the operating characteristics on SoCalGas’ system on those days.
- 3.1.4. If the answer to the question prior to the previous question is “no,” please explain in detail how under Rule 23 or other part of SoCalGas’ tariffs, the curtailment was considered to be localized.
- 3.1.5. What locations on SoCalGas’ system were subject to the “localized curtailment”?
- 3.1.6. Was the February 6-7, 2014, curtailment considered a delivery point curtailment on SDG&E’s system per Section K of its Rule 14?
- 3.1.7. If the answer to the previous question is “yes,” please explain why it was considered a delivery point curtailment.
- 3.1.8. If the answer to the question prior to the previous question is “no,” please explain in detail how under Rule 14 or other part of SDG&E’s tariffs, the curtailment was considered to be localized.
- 3.1.9. What locations on SDG&E’s system were subject to the “localized curtailment”?

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RESPONSE 3.2:

- 3.2.1. At 6:30 AM February 6 the problem on the SoCalGas system was limited to the Southern System.
- 3.2.2. Yes. The curtailment was the result of EG dispatch well in excess of available supply that resulted in a system emergency.
- 3.2.3. See Response 3.1.11
- 3.2.4. N/A
- 3.2.5. The SoCalGas Southern System
- 3.2.6. No.
- 3.2.7. N/A
- 3.2.8. The SDG&E curtailment was a system-wide emergency defined in Rule 14.N.
- 3.2.9. N/A

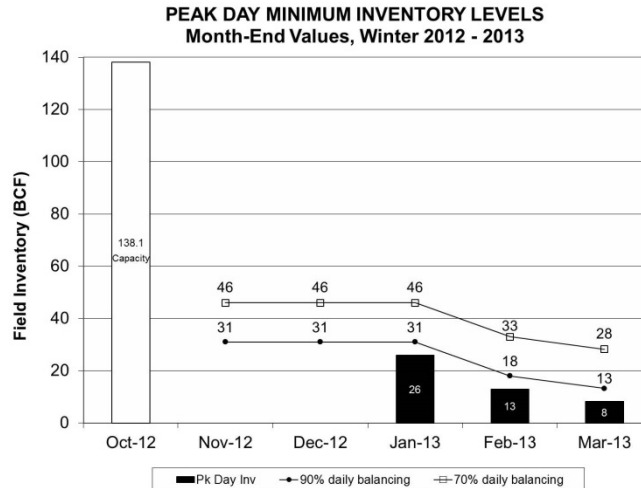
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QUESTION 3.3:

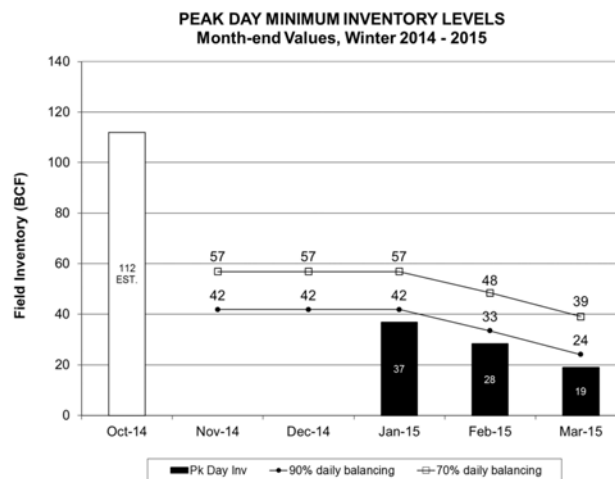
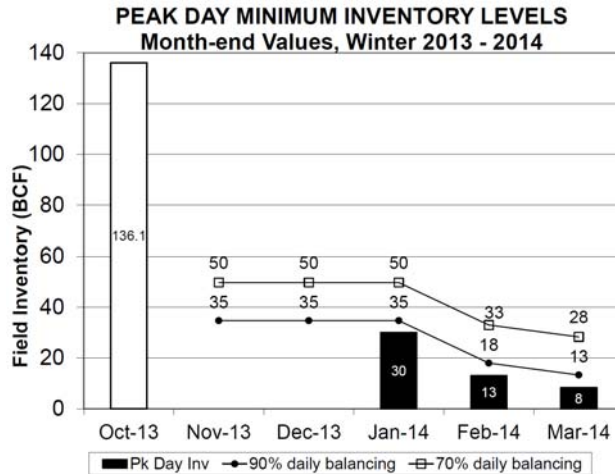
3.3. Regarding the testimony at page 1, lines 14-16, which states: “Prior to curtailing standby procurement service, SoCalGas and SDG&E were operating under their winter balancing, 5-day/50% balancing rules.²” Footnote 2: “See SoCalGas Rule 30, Section G.”

Under Rule 30, Section G, “information regarding the established peak day minimums, daily balancing trigger levels and total storage inventory levels will be made available to customers on a daily basis via EBB...” Here are the peak day minimum inventory levels for the current and previous two years.



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The following statement accompanied the notice of the peak day minimum inventory levels for 2013-2014: “The extended outage at our Playa del Rey storage field earlier this year has impacted its deliverability. This has resulted in a larger January peak day minimum inventory requirement relative to last year. Our Storage Operations department is in the process of determining the best course of action to regain deliverability, and the January requirement will be adjusted as warranted.”

The following statement accompanied the notice of the peak day minimum inventory levels for 2014-2015: “Peak Day Minimum inventory requirements are higher this year relative to past years due to a loss of low-inventory deliverability at our storage fields.”

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- 3.3.1. Is the Playa del Rey storage field fully operational or has the extended outage at the field continued into the 2014-2015 storage year?
- 3.3.2. Please describe any other operational problems at any other storage field that acts to reduce deliverability at low-inventory levels.
- 3.3.3. When did these operational problems begin? Please provide a separate answer for each problem.
- 3.3.4. Please describe any other factors that SoCalGas has become aware of within the last two years that have acted to reduce deliverability at low-inventory levels.
- 3.3.5. When did SoCalGas become aware of these factors? Please provide a separate answer for each factor.
- 3.3.6. Please state the amount in percentage terms by which deliverability has been reduced at low inventory levels.
- 3.3.7. At what inventory level does SoCalGas experience reduced deliverability?
- 3.3.8. Did SoCalGas experience reduced deliverability at inventory levels below 26 Bcf during storage season 2012-2013?
- 3.3.9. Did SoCalGas experience reduced deliverability at inventory levels below 30 Bcf during storage season 2013-2014?
- 3.3.10. Does SoCalGas expect to experience reduced deliverability at inventory levels below 37 Bcf during the storage season 2014-2015?

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RESPONSE 3.3:

- 3.3.1. The extended outage at Playa Del Rey (PDR) started on January 6th 2013 and lasted almost four months. The field was returned to operations in late April, 2013, but during that period significant water intrusion occurred. As a result, the maximum working inventory of PDR is currently 2.15 Bcf, with another .25 Bcf expected to be recovered over the next year or two with water removal. Since its maximum inventory is lowered, it more quickly reaches inventory levels where its deliverability declines.
- 3.3.2. Aliso Canyon's deliverability at high inventory levels remains unchanged; its deliverability at lower inventory levels is less than had been previously believed.
- 3.3.3. SoCalGas became aware of the PDR issue in 2013 and began to address it. It became aware of the Aliso Canyon issue in early 2014 and confirmed that issue with a low inventory withdrawal test. Some of the low-end deliverability "lost" at Aliso Canyon has already been recovered. Work is in progress to further restore deliverability rates at lower inventories.
- 3.3.4. N/A
- 3.3.5. N/A
- 3.3.6. For PDR, negligible. For Aliso Canyon, about 17%.
- 3.3.7. The answer to this is field-specific and varies over time. The answer to this in aggregate depends upon the distribution of inventory among the fields, which also varies depending on operations. The answer also depends upon any maintenance or shut-in activities at the fields. Physical withdrawal capacity is posted daily on the Envoy system.
- 3.3.8. Yes. It is the nature of storage fields that deliverability declines as inventory levels decline. SoCalGas' deliverability has almost always been lower at a 25

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- Bcf level than at a 26 Bcf level. The storage season 2012-2013 is no different than others in this regard.
- 3.3.9. Yes. It is the nature of storage fields that deliverability declines as inventory levels decline. SoCalGas' deliverability has almost always been lower at a 29 Bcf level than at a 30 Bcf level. The storage season 2013-14 is no different than others in this regard.
- 3.3.10. Yes. It is the nature of storage fields that deliverability declines as inventory levels decline. SoCalGas' deliverability has almost always been lower at a 36 Bcf level than at a 37 Bcf level. The storage season 2014-15 is no different than others in this regard.