

Application No: A.17-10-002
Exhibit No.: _____
Witness: Paul Borkovich

Application of Southern California Gas Company
(U 904 G) and San Diego Gas & Electric Company
(U 902 G) Regarding Feasibility of Incorporating
Advanced Meter Data Into the Core Balancing
Process.

A.17-10-002
(Filed October 2, 2017)

REBUTTAL TESTIMONY OF
PAUL BORKOVICH
ON BEHALF OF
SOUTHERN CALIFORNIA GAS COMPANY
SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

August 10, 2018

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1 **REBUTTAL TESTIMONY**
2 **OF PAUL BORKOVICH**

3 **I. PURPOSE**

4 The purpose of my rebuttal testimony on behalf of Southern California Gas Company
5 (SoCalGas) and San Diego Gas & Electric Company (SDG&E) is to respond to certain assertions
6 and proposals included in the intervenor testimony of Catherine E. Yap on behalf of Southern
7 California Generation Coalition and Indicated Shippers (SCGC/IS), Robert C. Grimm on behalf
8 of Southern California Edison Company (SCE), and Tim O'Connor and Greg Lander on behalf
9 of Environmental Defense Fund (EDF).

10 As I explain in more detail in this testimony, intervenor allegations of noncore customer
11 harm specifically arising from the current balancing regime whereby the Utility Core
12 Procurement Group (SoCalGas' Gas Acquisition Department) balances its gas supplies against a
13 same-day forecast provided by the Demand Forecast Group rather than against actual usage on
14 Operational Flow Order (OFO) days are misguided. SoCalGas and SDG&E have already taken
15 steps addressing concerns about the accuracy of the daily demand forecast prepared for
16 SoCalGas' Gas Acquisition Department by the Demand Forecast Group by incorporating
17 SDG&E AMI data into the SDG&E core demand forecast and proposing to similarly incorporate
18 Advanced Meter Infrastructure (AMI) data into the SoCalGas' core demand forecast once
19 sufficient historical AMI data is available.¹ SoCalGas and SDG&E believe that integrating AMI
20 data into the forecast will have a positive impact on the accuracy of the demand forecast.²

21 SoCalGas and SDG&E AMI systems are not designed to provide real-time data to core
22 balancing agents, and the systems are not currently in place to aggregate daily demand for use in

¹ Prepared Direct Testimony of Sharim Chaudhury at 9-10.

² *Id.*

1 enforcing daily balancing requirements against core balancing agents, including Gas Acquisition,
2 during OFOs. It simply does not make sense to require core balancing agents to undertake
3 additional measures or for SoCalGas and SDG&E to invest in new data systems before the
4 forecasting enhancements are implemented and evaluated.

5 **II. ASSERTIONS OF NONCORE CUSTOMER HARM ARE OVERSTATED**

6 Both SCGC/IS and SCE assert that noncore customers are harmed by the current
7 balancing regime for core customers. As described in the following sections, these concerns are
8 either overstated or misinformed.

9 **A. Core Forecast Errors Do Not Trigger Unnecessary OFOs**

10 SCGC/IS states that “permitting Gas Acquisition to balance to a forecast rather than
11 usage results in Gas Acquisition over-deliveries or under-deliveries that exacerbate the need to
12 call OFOs, requiring noncore customers to balance within a narrow tolerance to keep the system
13 from being over-pressured or under-pressured.”³ SCGC/IS presents analyses of wintertime low
14 and high OFO days, concluding as follows:

15 On 78 percent of the days examined in the table, the Gas Acquisition over-
16 delivery is above the System Operator’s tolerance level. Thus, on these days the
17 retail core forecasting error alone was sufficient to cause the High OFO.⁴

18 . . .

19 On 44 percent of the days examined in the table, the estimated Gas Acquisition
20 delivery deficit is larger than the tolerance level. Thus, on these days the retail
21 core’s forecasting error alone was sufficient to cause the Low OFO. On the
22 remaining days, the retail core’s forecasting error substantially contributed to the
23 need to declare a Low OFO.⁵

³ Direct Testimony of Catherine E. Yap at 17.

⁴ *Id.* at 20.

⁵ *Id.* at 25.

1 Both low and high OFOs⁶ are currently declared no later than 8:00 p.m. the day before the gas
2 day.⁷ Gas Acquisition, however, receives its Daily Forecast Quantity against which it is required
3 to balance by 7:00 a.m. the next day (i.e., the morning of the gas day).⁸

4 SCGC/IS' conclusion above, even if true, does not explain how Gas Acquisition
5 balancing to a forecast exacerbates the need to declare an OFO when OFOs are declared the day
6 before the gas day and Gas Acquisition receives its forecast the morning of the gas day.

7 SCGC/IS also does not explain how, even if this causal relationship existed, requiring Gas
8 Acquisition to balance to actual core demand would reduce the frequency of OFOs. Regardless
9 of how the number that Gas Acquisition balances to is established, such as a forecast demand,
10 actual demand, or somewhere in between, this number would only be available to Gas
11 Acquisition after an OFO had been declared.

12 Contrary to SCGC/IS' assertions, it is the aggregate behavior of *all* shippers in the day-
13 ahead gas market relative to the System Operator's sendout forecast that determines whether an
14 OFO event is triggered. Requiring core balancing agents to balance to actual demand during
15 OFO events is not likely to affect day-ahead scheduling activity because core balancing agents
16 by default must act on some sort of estimate in the day ahead market. The purchase and
17 scheduling of gas supply is primarily a day-ahead (i.e., the day before the gas day) activity
18 because gas is a commodity that moves at low speed. Shippers purchase and sell the vast

⁶ As of June 1, 2018. See SoCalGas Advice Letter 5297.

⁷ See SoCalGas Rule No. 30, Sheet 13 ("Charges for the first day of the OFO event will not be imposed if notice is given after 8:00 p.m.* Pacific Time the day prior to the start of the OFO event."). This temporary provision is currently scheduled to revert to 6:00 p.m. on December 1, 2018.

⁸ See SoCalGas Rule 1, Sheet 5 ("Daily Forecast Quantity: A forecast of core customer Measurement Day (midnight to midnight Pacific Standard Time) daily usage as provided by the Utility's Demand Forecasting Group (in the Regulatory Affairs department) using a consistent daily load forecast equation. Weather forecasts input into the equation will be from an independent third party and the most current available as of 7:00 a.m. of flow day. The Utility's Demand Forecasting Group will also prepare an initial forecast of core customer daily usage based on the most current weather inputs available as of 5:00 a.m. of flow day, but this initial forecast will not be the Daily Forecast Quantity.").

1 majority of supply across the United States and nominate it for delivery in Scheduling Cycles 1
2 and 2, which occur on the day before the gas day.⁹

3 The System Operator compares these scheduled quantities to its sendout forecast and
4 available storage capacity to determine whether or not an OFO must be declared. If a high OFO
5 is declared, shippers will likely sell excess supply and reduce their nominations over the flow
6 day cycles (Cycles 3-5) if their current deliveries are greater than their expected usage plus
7 balancing tolerance. Similarly, if a low OFO is declared, shippers will likely purchase additional
8 supply and increase their nominations to better match expected usage over Cycles 3-5 if their
9 expected usage is higher than the quantity being delivered less balancing tolerance. However,
10 Cycle 3-5 activity does not impact the declaration of an OFO, which, as previously explained, is
11 declared the day before the gas day.

12 Contentions that Gas Acquisition's current balancing to a forecast provided after an
13 OFO is declared impacts the likelihood of an OFO being declared are unsupported and
14 speculative. Accordingly, SCGC/IS has not shown harm to SoCalGas' noncore customers for
15 maintaining the current balancing requirement.

16 **B. Core Balancing to Actual Usage Would Not Have the Asserted Effect**

17 SCE claims that core balancing to a forecast rather than to actual demand on OFO days
18 unnecessarily drives up costs for electric customers, creates a strain on the efficient and reliable
19 operation of the electric system, and shifts the responsibility and cost of balancing to the
20 noncore.¹⁰ Like SCGC/IS, SCE appears to mistakenly believe that if core balanced to actual
21 demand then noncore customers would be exposed to fewer OFO events. Fewer OFO events
22 would certainly decrease the exposure of electric generators subject to same day dispatch to

⁹ See SoCalGas Rule No. 30, Sheet 8.

¹⁰ Exh. SCE-01 (Intervenor Testimony of Robert Grimm) at 1.

1 make up their daily imbalance through late-cycle purchases or trades for scheduled deliveries
2 from other shippers on OFO days. This is currently not easily performed due to restricted access
3 to storage capacity and Backbone Transportation Service capacity on our system, although
4 temporary measures adopted in the “Second Daily Balancing Proposal Settlement Agreement”
5 were designed to help. These measures include (1) waiving low OFO noncompliance charges
6 when the confirmation process limiting nominations to system capacity cuts previously
7 scheduled Backbone Transportation Service nominations during any of the Intraday 1-3 Cycles
8 (Cycles 3-5) and (2) waiving OFO noncompliance charges for an electric generation customer
9 who was dispatched after the Intraday 1 (Cycle 3) nomination deadline under certain
10 circumstances.¹¹

11 Based on my prior explanation of OFOs being declared on the day before the gas day,
12 SCE’s argument that not requiring the core to balance to actual demand somehow shifts the
13 responsibility and cost of balancing to noncore customers¹² is speculative. During an OFO, the
14 noncore balancing agents are only responsible for balancing *their* usage to *their* scheduled
15 quantities within the specified balancing tolerance. They are not responsible for covering the
16 imbalances of any other noncore balancing agent or core balancing agent.

17 SCE also mistakenly describes system line-pack as triggering high and low OFOs.¹³
18 SoCalGas and SDG&E currently declare OFOs based on the level of storage capacity used to
19 balance forecast system sendout with scheduled receipts for Cycles 1 and 2. If forecast system
20 sendout exceeds receipts and the withdrawal from storage available for system balancing, then a

¹¹ See D.16-12-015, as modified by D.17-11-021.

¹² Exh. SCE-01 (Intervenor Testimony of Robert Grimm) at 18.

¹³ *Id.* at 11-12. Pursuant to SoCalGas Rule No. 41, Sheet 2, “System linepack will not be part of the formula used by Gas Control to determine when a Low OFO should be issued.”

1 low OFO is declared. If scheduled deliveries exceed the demand and injection into storage that
2 is available for system balancing, then a high OFO is declared.

3 **C. Core Balancing Agents Have Sufficient Assets to Mitigate Forecast Error**

4 SCGC/IS also claims harm to noncore customers as a result of core demand “forecast
5 errors.” For example, SCGC/IS asserts that “(e)xamining retail core forecast errors in volumetric
6 terms rather than in percentage terms during both High OFOs and Low OFOs during the winter
7 provides an opportunity to consider whether Gas Acquisition over-deliveries or under-deliveries
8 due to Gas Acquisition being allowed to balance against a forecast of retail core usage rather
9 than actual usage has made a significant contribution to causing OFOs.”¹⁴ This assertion is
10 misguided.

11 SoCalGas and SDG&E provided SCGC/IS with core forecasting data covering the period
12 January 1, 2016 through April 30, 2018.¹⁵ On almost half (42%) of the high OFO days during
13 that period (i.e., when there was an oversupply of gas being delivered into the system), the core
14 forecast was *lower* than Gas Acquisition’s estimated actual burn, therefore *reducing* Gas
15 Acquisition’s OFO delivery ceiling. Likewise, on almost half (44%) of the low OFO days
16 during that period (i.e., when there was an undersupply of gas being delivered into the system),
17 the core forecast was *higher* than Gas Acquisition’s estimated actual burn, therefore *increasing*
18 Gas Acquisition’s delivery requirements. SCGC/IS does not recognize or account for the
19 existence of this “tradeoff,” which is created whenever the core forecast is on the “opposite side”
20 of the net system condition.

¹⁴ Direct Testimony of Catherine E. Yap at 18.

¹⁵ SCGC/IS Data Request Questions 1.3, 2.1, 2.2, and 3.1.

1 SCGC/IS also chose to not present a comparison of Gas Acquisition's deliveries to
2 estimated actual burn using the data provided to them.¹⁶ SCGC/IS' analysis in Table 3 assumes
3 that Gas Acquisition only delivers 95% of forecasted gas demand, which is at the extreme limit
4 of low OFO tolerance and leads to biased results. However, the data provided to SCGC/IS does
5 not support their assumption, showing that Gas Acquisition's deliveries on low OFO days (which
6 ranged from 85 - 95% minimum delivery requirements, depending on the day) averaged 100.5%
7 of the estimated actual burn, while Gas Acquisition's deliveries on high OFO days (which
8 ranged from 105 - 110% maximum delivery requirement) averaged 102% of the estimated actual
9 burn.¹⁷ This data indicates that there is no systemic detrimental impact to the system from Gas
10 Acquisition balancing against a forecast.

11 Ignoring for argument's sake that SCGC/IS does not explain how requiring Gas
12 Acquisition to balance to actual core demand would reduce the frequency of OFOs, SCGC/IS'
13 analyses of Gas Acquisition's deliveries are ill-conceived and incomplete due to reliance on
14 compounding assumptions and failure to acknowledge other factors, as I describe below.
15 SCGC/IS' conclusions therefore do not correctly portray the reality of the impacts that Gas
16 Acquisition's deliveries have on the system and should not be relied on to inform a decision in
17 this proceeding.

18 SCGC/IS analyzes 18 low OFO days when the system sendout was 3.5 Bcf or higher in
19 Table 3 of its testimony, claiming that the retail core's forecasting error either caused or
20 substantially contributed to the declaration of the OFOs.¹⁸ However, it is illogical for SCGC/IS
21 to assert that the core's forecasting error substantially contributed to the need to declare a low

¹⁶ SCGC/IS Data Request Question 6.1.

¹⁷ Over the same period, Gas Acquisition's deliveries averaged 101% of forecast burn on low OFO days and 100% of forecast burn on high OFO days.

¹⁸ Direct Testimony of Catherine E. Yap at 25 (Table 3).

1 OFO on four of the 18 days when the forecast was higher than estimated actual usage. These
2 higher forecasts required Gas Acquisition to *increase* its deliveries, thus benefitting the system.

3 Before discussing the remaining 14 days, it is important to recognize that SCGC/IS'
4 analyses strictly reflect Gas Acquisition's *scheduling* of core storage assets and do not recognize
5 the *unscheduled* storage assets still available for balancing Gas Acquisition's load.¹⁹ SCGC/IS
6 and SCE have acknowledged Gas Acquisition's right to fully utilize its storage assets to balance
7 its load.²⁰ However, SCGC/IS ignores these rights in its analyses. When Gas Acquisition does
8 not nominate its storage assets, these assets do not disappear from the system. And the System
9 Operator does not require storage assets to be scheduled in order to use them to maintain system
10 integrity. Rather, unscheduled storage withdrawal and injection capacities are still available to
11 the System Operator to balance Gas Acquisition's load. In other words, the actual use of Gas
12 Acquisition's storage assets for balancing its load is determined by the System Operator and is
13 not dictated by Gas Acquisition's scheduled use of these assets.

14 To that end, SCGC/IS' analyses do not take into consideration system data made publicly
15 available on Envoy, which provides for each gas day both unavailable and unused system firm
16 injection and withdrawal rights. For perspective, Gas Acquisition is allocated the vast majority
17 (roughly 92%) of system firm injection and withdrawal rights for supporting its core reliability
18 function and SCGC/IS' analyses should have taken these unavailable and unused rights into
19 consideration.

²⁰ Direct Testimony of Catherine E. Yap at 48 ("The Intraday 4 Cycle allows for nominations into and out of storage, but given the large amount of storage capacity that is available for the retail core's use, the ability to nominate into and out of storage during the last cycle of the Gas Day provides an important assurance that retail core would be able to balance against actual usage." And, "If the retail core's usage deviates from forecasted usage on a summer day, the amount of gas injected into storage could be adjusted accordingly using the retail core's storage rights to cover the difference."). The Direct Testimony of Robert C. Grimm states that during a high OFO, Gas Acquisition can "exercise unused storage injection rights reserved for the core." Exh. SCE-01 at 21.

1 Coming back to the remaining 14 low OFO days analyzed in Table 3, rather than creating
2 an estimate of Gas Acquisition deliveries using the most extreme 95% delivery assumption,
3 SCGC/IS could have simply quantified the estimated forecast error for each day by multiplying
4 the “Estimated Actual Retail Core Usage” in column D by the core forecast deviation included in
5 column E. To evaluate whether Gas Acquisition had sufficient remaining withdrawal rights to
6 accommodate this estimated forecast error, SCGC/IS could have then compared each estimated
7 forecast error to the unutilized firm withdrawal on the system for that day (data which is
8 available on SoCalGas’ Electronic Bulletin Board, SoCalGas ENVOY[®] (Envoy)). SCGC/IS
9 would have then observed that the estimated forecast error could have been mitigated on all but
10 one of these 14 days. Only for February 23, 2018 would this analysis show that the estimated
11 under forecast quantity exceeded the amount of unused withdrawal on the system. However, this
12 shortfall likely would have been eliminated with a withdrawal from Aliso Canyon, which was
13 not made available for scheduling in accordance with the Aliso Canyon Withdrawal Protocol
14 (ACWP).

15 To the extent that allocated firm injection rights on high OFO days and firm withdrawal
16 rights on low OFO days were not fully available to Gas Acquisition, Gas Acquisition’s ability to
17 balance using its Commission-authorized rights was constrained. Envoy data for the period
18 January 1, 2016 through April 30, 2018 (the period analyzed by SCGC/IS) reveals that the full
19 amount of Commission-authorized firm injection rights was not available to Gas Acquisition on
20 Cycle 1 on any high OFO day, with the firm injection shortfall averaging 300 MDth/d for the
21 system over that period. Similarly, Envoy data for the same period reveals that the full amount
22 of Commission-authorized firm withdrawal rights was not available to Gas Acquisition on Cycle
23 1 on almost all (95%) of low OFO days, with the firm withdrawal shortfall averaging 1,106

1 MDth/d for the system over that period. This data suggests that the concerns raised by
2 intervenors about Gas Acquisition’s balancing activities are inflated due to significant reductions
3 in the availability of storage assets that the Commission contemplated for Gas Acquisition, as
4 recognized by SCGC/IS.²¹ A Commission decision here that is influenced by these ephemeral
5 storage capacity reductions would be short-sighted.

6 Notwithstanding the fact that Commission-authorized firm withdrawal and injection
7 rights were not fully available to Gas Acquisition over the period in question, an examination of
8 Envoy data reveals available but unused firm withdrawal rights on low OFO days and available
9 but unused firm injection on high OFO days that challenge SCGC/IS’ and SCE’s supposition.
10 From January 1, 2016 through April 30, 2018, the SoCalGas system had available but unutilized
11 firm withdrawal assets prior to the final scheduling cycle on essentially all (98%) low OFO days,
12 and on these days the unused firm withdrawal capacity averaged 905 MDth/d for the system.
13 For the same period, available but unutilized firm injection assets remained prior to the final
14 scheduling cycle on about 50% of high OFO days and the unused firm injection capacity on
15 these days averaged 55 MDth/d for the system.

16 Assuming Gas Acquisition was required to balance to actuals and that it knew its actual
17 burn would be lower than the provided forecasted load on these days, Gas Acquisition could
18 have scheduled this additional firm injection to re-balance its deliveries in later flow day
19 scheduling cycles, eliminating any purported benefits claimed by intervenors from requiring Gas
20 Acquisition to balance to its actual demand. In contrast, from July 3, 2018 when the majority of
21 Aliso Canyon injection assets were again made accessible, and with the Energy Division

²¹ Direct Testimony of Catherine E. Yap at 8-9 (“Although the Applicants’ gas transmission and storage system has traditionally operated with a great deal of flexibility, current constraints jeopardize meeting the one-in-ten-year cold day reliability standard for maintaining service to all customers and also jeopardize meeting the one-in-ten-year electricity peak day demand.”).

1 recommending an increased inventory upper limit of 34 Bcf (up from 24.6 Bcf),²² Commission-
2 authorized firm injection rights have been available on all days, with the average amount of
3 unutilized system firm injection rights having increased to about 250 MDth/d through July 31,
4 2018. This amount of unutilized injection greatly offsets potential differences between the
5 forecasted and the estimated actual core demand on high OFO days.

6 To conclude, efforts to improve estimates of Gas Acquisition's core demand for
7 balancing purposes does not change the operation of the system. These efforts would only have
8 an impact to the extent Gas Acquisition's total injection/withdrawal rights were insufficient to
9 balance its load, whereby Gas Acquisition would need to adjust its flowing supplies. SCGC/IS'
10 suggestion that the Commission should place Gas Acquisition in a position of behaving more
11 conservatively²³ could be interpreted as limiting Gas Acquisition's full use of its storage rights.

12 **D. Core Balancing Requirements Do Not Have the Curtailment Impact Cited by**
13 **SCE**

14 SCE contends throughout its testimony that curtailment risk should drive the Commission
15 to act on its proposals regarding core balancing to actuals. The following is an example:

16 This shift in responsibility and cost is most profound during gas
17 curtailments. For instance, when SCG/SDG&E's retail core load's (almost
18 always the largest load on the system) forecast is too low on an OFO day,
19 noncore customers must balance to account for the reduced line-pack.
20 Using the curtailment that occurred on February 20, 2018, as an example,
21 because the SCG/SDG&E customers did not purchase sufficient gas,
22 noncore electric generators were not permitted to use the gas they
23 purchased so that SCG/SDG&E could make it available other high priority
24 customers, including to its retail core customers. In addition, the
25 California Independent System Operator (CAISO) was required to procure

²² See California Public Utilities Commission (Energy Division), *Aliso Canyon Working Gas Inventory, Production, Capacity, Injection Capacity, and Well Availability for Reliability, Summer 2018 Supplemental Report*, July 6, 2018, at 1.

²³ Direct Testimony of Catherine E. Yap at 34 ("If Gas Acquisition were responsible for balancing to actual usage, Gas Acquisition would have a direct incentive to deliver gas conservatively, particularly during the winter months when retail core usage is at its highest levels.").

1 replacement resources from other sources to generate electricity. Since
2 the CAISO operates a market based on marginal economics, the
3 replacement electricity was undoubtedly procured at a higher cost.
4 Additionally, because of the gas curtailments, one can assume gas prices
5 were trading higher than they would have, which also would have caused
6 gas-fired generators increasing their bid prices to generate.²⁴

7 This testimony can be misleading. SCE begins with a general statement that “when
8 SCG/SDG&E’s retail core load’s...forecast is too low on an OFO day, noncore customers must
9 balance to account for the reduced line-pack.” SCE then moves on to specifically state that on
10 February 20, 2018, “because the SCG/SDG&E customers did not purchase sufficient gas,
11 noncore electric generators were not permitted to use the gas they purchased so that
12 SCG/SDG&E could make it available other high priority customers, including to its retail core
13 customers.” SCE clearly refers in this second statement to *all* SCG/SDG&E customers, not just
14 Gas Acquisition. SCE does not present data to show that the core demand forecasting error, as
15 maligned in their first statement, created the events summarized in their second statement as
16 would be implied by combining these statements.

17 In fact, on February 20, 2018, the core’s forecasted sendout was 1% *higher* than the
18 estimated actual demand. What really happened on February 20, 2018 was quite different than
19 the story presented by SCE. The system sendout forecast for February 20 was significant, at
20 3,788,038 Dth. To maintain system integrity, the System Operator implemented the ACWP to
21 allow the withdrawal of gas from Aliso Canyon if required. The ACWP requires the voluntary
22 curtailment of electric generation customers in consultation with the electric grid operators
23 before any withdrawals from Aliso Canyon can be made. If access to Aliso Canyon withdrawal
24 capacity had been allowed without the ACWP requirements, it is not likely a curtailment would
25 have been called on February 20.

²⁴ Exh. SCE-01 (Intervenor Testimony of Robert Grimm) at 20.

1 **III. CORE CUSTOMERS SHOULD EXPECT INCREASED RATES IF**
2 **INTERVENOR PROPOSALS ARE ADOPTED**

3 I want to focus on a consequence of modifying the current core balancing process to
4 require core balance to actual demand as proposed by the intervenors. As I explain below, I
5 believe that the costs for core customers to receive gas service will likely increase if core
6 balancing agents are required to balance to actual demand on days for which an OFO is declared.

7 The intervenors advocate for equal treatment for the core and noncore; however, these
8 groups are fundamentally distinct in their respective technical capabilities. For instance,
9 SCGC/IS states that “[i]f the Commission were to require Gas Acquisition to balance to actual
10 retail core usage, the Commission would promote the most efficient use of the Applicants’
11 remaining available system resources.” SCGC/IS believes that “the proof for this is the behavior
12 of noncore customers who are already required to balance their supplies against actual usage”
13 and that “despite the fact that noncore customers are not represented by a single entity, the
14 combined noncore has consistently responded to OFOs.”²⁵ Contrary to SCGC/IS’ conclusory
15 statement, what may work for noncore may not work for the core because they are not the same.
16 Fundamental differences between the core and noncore are the ability to access real-time data
17 and ability to influence actual demand.

18 The first fundamental difference is that the core does not have access to real-time data.
19 As the Commission determined in the Omnibus Decision and as I referenced in my direct
20 testimony, it still holds true that core does not have access to real-time consumption data and
21 therefore should not be required to balance to a forecast. No intervenor contends that Applicants
22 now have real-time consumption data. Intervenor proposals appear to argue that Applicants have
23 non-real-time data that is good enough to require them to balance to actual demand. On the other

²⁵ Direct Testimony of Catherine E. Yap at 2-3.

1 hand, the intervenors do not acknowledge that noncore customers are required to have Gas
2 Energy Measurement Systems (GEMS) devices installed to receive noncore service.²⁶ Noncore
3 customers with GEMS devices have the ability to access their metered usage in real-time through
4 an onsite interconnection to their SoCalGas or SDG&E meter. Alternatively, they can also
5 monitor their usage from their own check-meters. To the extent a noncore balancing agent
6 obtains actual demand in real-time, it is in a better position to balance to its actual demand. This
7 is in stark contrast to the current AMI system for SoCalGas, which obtains hourly reads available
8 the following day, and SDG&E, which only obtains a daily read by the following day.

9 The second fundamental difference between core and noncore is that noncore balancing
10 agents can have direct knowledge of their customers' natural gas resource needs and some may
11 be able to influence their usage, when necessary, to comply with balancing requirements.
12 Conversely, core balancing agents are subject to the individual usage decisions of up to several
13 millions of customers and do not have direct knowledge of customers' decision-making or
14 influence over their decision-making.

15 The core balancing agents should not be held to the same requirements as noncore
16 balancing agents based on the premise of treating core the same as noncore because it overlooks
17 these fundamental differences. Intervenors provide no evidence to support their conclusion that
18 if the noncore customers can do it without issue, then so can the core. Similarly, the intervenors
19 advocate for core to be held to balancing rules developed for noncore when, because of these
20 fundamental differences between the core and noncore, core would be disadvantaged. In light of
21 these differences, requiring core balancing agents to balance to a number that is not determined

²⁶ See SoCalGas Schedule No. GT-TLS, Sheet 8 (“Electronic Meter Reading: Customers electing noncore service status must have electronic meter reading equipment installed at Customer’s expense as a condition of noncore service.”).

1 until after the last scheduling cycle is closed will likely result in increased rates for core
2 customers.

3 **IV. CERTAIN INTERVENOR PROPOSALS BEYOND THE CENTRAL ISSUE OF**
4 **CORE BALANCING REQUIREMENTS CANNOT BE ADOPTED**

5 I also wish to address other proposals put forth by the intervenors that I believe are
6 inappropriate, as explained in detail below.

7 **A. SCE’s Operational Proposal Requiring Communications between the System**
8 **Operator and Gas Acquisition Would Violate the Merger Remedial**
9 **Measures**

10 SCE proposes to “operationalize balancing to AMI and estimated actuals” by adopting a
11 procedure in which the SoCalGas System Operator transfers operating data to Gas Acquisition
12 periodically throughout the gas day.²⁷ Under this regime, Gas Acquisition would presumably
13 adjust its scheduled quantities on OFO days based on this data to attempt to avoid the payment of
14 OFO noncompliance charges.

15 Requiring communication of proprietary information between the System Operator and
16 Gas Acquisition conflicts with Remedial Measures adopted in the Sempra Merger Decision,
17 D.98-03-073, as modified in the Omnibus Decision, D.07-12-019:

18 Since Gas Acquisition will no longer be performing system reliability and
19 balancing services, under Remedial Measure 16, as adopted in D.98-03-
20 073, unrestricted communications between Gas Operations and Gas
21 Acquisition are no longer permitted.²⁸

22 If the Commission were to order SoCalGas to “operationalize balancing to AMI and estimated
23 actuals,” the System Operator cannot be involved absent approval of the regulatory agencies that
24 conditioned their approval of the merger based on the adoption of the remedial measures.

25 Further, as described in Mr. Stewart’s rebuttal testimony, SDG&E’s AMI system is not able to

²⁷ Exh. SCE-01 (Intervenor Testimony of Robert Grimm) at 8.

²⁸ D.07-12-019 at 105 (Finding of Fact 19).

1 provide hourly data throughout the day. Accordingly, the “operationalization” concept is not
2 applicable for that the SDG&E portion of Gas Acquisition’s load.

3 **B. EDF’s Proposals Discount the Important Function of Storage and Fail to**
4 **Reflect an Understanding of Applicants’ Gas System**

5 As a preliminary matter, EDF’s proposals that promote its general policy position on the
6 function of gas storage appears to be outside the scope of this proceeding. To the extent the
7 Commission accepts this content within this proceeding, I offer the following explanation of why
8 EDF’s proposals should be rejected.

9 EDF demonstrates a basic lack of understanding on how the SoCalGas and SDG&E
10 system operates. Its recommendations relating to the use of storage assets are unreasonable
11 when viewed in the overall design of the system and fail to account for the impact on not only
12 the core procurement groups but *all customers* of SoCalGas and SDG&E. EDF contends that:

13 [W]hen SoCalGas overschedules gas delivery, the utility forces an
14 overproduction and over-delivery of gas to California, thereby creating an
15 excessive need for use of gas storage to balance the system, and an
16 undermining of the true cost of meeting the energy needs for Californians.
17 On the other hand, when SoCalGas under schedules gas delivery, the
18 utility increases the need for it to move gas on short-term notice to meet
19 demand, a result which increases the costs of gas supply and locks in the
20 need for utilities like SoCalGas to draw from large storage facilities to
21 provide reliability to the region. In both situations, a larger than necessary
22 demand for gas and gas storage results.²⁹

23 . . .

24 By ensuring a closer match between scheduled gas and actual gas demand,
25 overall stress on the SoCalGas system will be reduced, and should reduce
26 both OFO days and reliance on storage as a source of supply of gas -
27 except on peak days when total demand exceeds the capability of
28 SoCalGas to receive gas from the interstates to meet system demand.³⁰

²⁹ Exh. EDF-01 (Intervenor Testimony of Tim O’Connor) at 5.

³⁰ Exh. EDF-02 (Intervenor Testimony of Greg Lander) at 16.

1 EDF's opinion is unsupported by data and is simply conjecture. As stated earlier in this
2 testimony, between January 1, 2016 and April 30, 2018, Gas Acquisition's deliveries on low
3 OFO days averaged 100.5% of estimated actual burn, while Gas Acquisition's deliveries on high
4 OFO days averaged 102% of estimated actual burn. The data shows that there is no systemic
5 over- or under-delivery of gas by Gas Acquisition to the point that it would impact SoCalGas'
6 overall storage needs.

7 All customers, core and noncore alike, pay for the balancing services provided by
8 SoCalGas and SDG&E in their transportation rates. EDF's recommendation to limit the use of
9 storage assets to only supplying gas on peak days when demand exceeds receipt capacity would
10 certainly reduce OFOs because it suggests that SoCalGas and SDG&E should operate in an
11 Emergency Flow Order (EFO) condition with a 0% balancing tolerance on *every single day*. If
12 customers did not have access to storage to provide daily balancing tolerance as the system was
13 designed, all customers would be subject to market prices out of their control on *every single*
14 *day*. EDF's proposed reconstructing of the role of storage assets in SoCalGas and SDG&E's gas
15 system is not within the scope of the proceeding and should be rejected.

16 **C. EDF's Proposal Circumvents SoCalGas' Priority of Service as Outlined in**
17 **Rule 23**

18 EDF states that "[b]y integrating AMI data into SoCalGas' core demand forecasting,
19 California can substantially improve the accuracy of natural gas dispatch, pricing and available
20 supply which can create additional opportunities to maximize the utilization of online renewables
21 and continue our progress towards achieving our emissions reductions goals."³¹ EDF's attempt
22 to link forecasting errors to utilization of electric renewables is strained and not supported by
23 evidence. EDF mistakenly concludes that "when OFO's are issued, market participants in

³¹ Exh. EDF-01 (Intervenor Testimony of Tim O'Connor) at 6.

1 general must either: a) sell off what the utility won't or can't accept; or, b) enter the market to
2 buy what the utility states is required." As I explained above, in actuality, OFOs are declared
3 because customers in aggregate are not balancing scheduled deliveries with forecast sendout.
4 Applicable noncompliance charges create an incentive for more harmony.

5 I also described above that core customers have substantial storage assets allocated to
6 them, which they can use to balance scheduled deliveries with expected usage that are paid for
7 by core customers in their rates. Core customers should not be divested of the benefits from
8 storage assets that they pay for in rates to reserve them exclusively for the electric grid operators
9 in case the electric grid operators may need it. The day-to-day benefits of these storage assets to
10 the core was described by SoCalGas in testimony filed in the Omnibus Proceeding. It stated:

11 SoCalGas' gas acquisition group has the ability to buy and sell gas in the
12 day market. In order to minimize gas costs, the gas acquisition group on a
13 daily basis compares that day's prices with forward prices in nearby
14 months or with expected prices later in the month. If daily prices are
15 below forward prices, the gas acquisition group may purchase some
16 additional gas in the day market to the extent allowed by its transportation
17 and storage rights, and thereby avoid the same amount of future purchases.
18 Likewise, if daily prices are above forward prices, the gas can be bought
19 back at a lower price in the future. These kinds of transactions are one
20 way in which the gas acquisition group uses the assigned core assets to
21 optimize the timing of gas purchases to minimize the core's gas costs, and
22 these kinds of transactions are not any different from the way marketers
23 and noncore customers use their storage and balancing rights.³²

24 I agree, and so did the Commission when it stated that "proposals intended to provide
25 additional benefits to noncore customers should not be approved at the expense of impairing the
26 protections to which core customers are entitled."³³ Requiring Gas Acquisition to reserve system
27 assets for which it has paid for potential use by electric grid operators would inappropriately
28 limit Gas Acquisition's buying and selling activity. I would expect that core gas costs would

³² A.06-08-026, Rebuttal Testimony of Johannes van Lierop (April 17, 2007) at 18.

³³ D.07-12-019 at 113 (Conclusion of Law 3).

1 increase if Gas Acquisition’s flexibility was limited by denying them day-to-day access to
2 storage in support of its mission to buy gas supply at the lowest practical cost to its core
3 customers.

4 **V. ADDITIONAL CLARIFICATION IS NECESSARY IF THE COMMISSION**
5 **ORDERS CORE BALANCING AGENTS TO BALANCE TO ACTUAL DEMAND**

6 Despite complicated proposals from intervenors, the question in this proceeding is a
7 simple one: whether core balancing agents, who do not have access to real-time usage
8 information, should be required to balance to actual usage, or whether integrating AMI data into
9 the current core balancing process is appropriate. If the Commission determines that core must
10 balance to actual demand, witnesses Chaudhury, Mercer, and Stewart all make recommendations
11 regarding how the Commission should proceed. I similarly recommend that the Commission
12 provide SoCalGas and SDG&E with the discretion, time, and resources necessary to implement
13 the requirement that core balancing agents balance to actual demand.

14 **A. Core Transport Agents (CTAs) Would Also be Expected to Balance to Actual**
15 **Demand**

16 CTAs act as balancing agents for the core customers they serve, including for daily
17 imbalances on OFO days. While CTAs may prefer to maintain the current use of Daily Contract
18 Quantities (DCQs) as the proxy for daily usage on the SoCalGas system, SoCalGas and SDG&E
19 expect that CTAs would be required to balance their scheduled deliveries to actual usage if the
20 Commission determines Gas Acquisition must do so.

21 **B. SoCalGas Requests Authorization to Move Cycle 6 (Intraday 4) of the**
22 **Scheduling Process to the Day After the Gas Day if the Commission**
23 **Determines SoCalGas and SDG&E Must Balance to Actual Demand and for**
24 **Associated Costs**

25 SCGC/IS observes that the “Intraday 4 Cycle allows only for nominations into and out of
26 storage, but given the large amount of storage capacity that is available for the retail core’s use,

1 the ability to nominate into and out of storage during the last cycle of the Gas Day provides an
2 important assurance that retail core would be able to balance against actual usage.”³⁴ While
3 acknowledging that Core Balancing Agents can make changes in nominations as late as 9:00
4 p.m. on the Gas Day, this timeline does not allow for incorporation of actual data on the Gas
5 Day, and a reasonably accurate operational usage number for the previous measurement day
6 currently does not exist for the core. In order for Cycle 6 to provide the benefit SCGC/IS asserts,
7 should the commission require Core Balancing Agents to balance to actual demand, Cycle 6
8 should be moved to the day following the Gas Day.

9 **C. No Changes are Necessary to the Accounting of OFO Penalties**

10 EDF makes the following recommendation:

11 With respect to in-state penalties, it is my view that any penalties levied on
12 the UGPD, be borne by SoCalGas/SDG&E shareholders. This would be
13 the case for the CTAs (i.e., marketers) and is certainly the case for non-
14 Core customers upon whom penalties are levied. In my view, levying the
15 penalties (if any) arising from UGPD actions or failures to act, on SoCal
16 Gas shareholders is a strong incentive to maintain balance. Much as the
17 GCIM process provides a material incentive for SoCalGas shareholders;
18 so too would their bearing of penalties provide a material and balanced
19 incentive.³⁵

20 EDF’s conclusion that “shareholders” of marketers and noncore customers would directly
21 bear the cost of penalties lacks a factual basis. Regardless, Gas Acquisition has a mandate to
22 procure gas at reasonable rates for core customers and its procurement is reviewed annually in its
23 Gas Cost Incentive Mechanism (GCIM) application. EDF provides no evidence to support its
24 presumption that Gas Acquisition would not appropriately comply with OFO balancing
25 requirements for the benefit of its customers.

³⁴ Direct Testimony of Catherine E. Yap at 48.

³⁵ Exh. EDF-02 (Intervenor Testimony of Greg Lander) at 31.

1 **D. In the Event the Commission Orders Incremental Expenditures, the**
2 **Commission Should Authorize a Regulatory Accounting Mechanism for**
3 **Recording and Recovering Costs**

4 Implementation of a requirement for core to balance to actual demand or other significant
5 modification of the core balancing procedures is going to require the incurring of costs.
6 SoCalGas and SDG&E do not support incurring the expenditures that would attach to
7 intervening parties' proposals. However, in the event the Commission disagrees, and orders
8 incremental expenditures, SoCalGas and SDG&E would request the ability to record and recover
9 all capital and operations and maintenance costs necessary to implement any new functional
10 requirements resulting from this proceeding. Since any modifications to the current core
11 balancing process would be authorized for the benefit of noncore customers, SoCalGas and
12 SDG&E recommend that the incremental costs of these activities be identified for cost recovery
13 from noncore customers.

14 This concludes my rebuttal testimony.