DOCKETED	
Docket Number:	18-IEPR-03
Project Title:	Southern California Energy Reliability
TN #:	226386
Document Title:	Indicated Shippers and The Energy Producers and Users Coalition Comments Comments of The Indicated Shippers and The Energy Producers and Users Coalition
Description:	N/A
Filer:	System
Organization:	Indicated Shippers and The Energy Producers and Users Coalition
Submitter Role:	Public
Submission Date:	1/25/2019 5:13:09 PM
Docketed Date:	1/28/2019

Comment Received From: Indicated Shippers and The Energy Producers and Users Coalition
Submitted On: 1/25/2019
Docket Number: 18-IEPR-03

Comments of The Indicated Shippers and The Energy Producers and Users Coalition

Additional submitted attachment is included below.

BEFORE THE

CALIFORNIA ENERGY COMMISSION

AND THE

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

2018 Integrated Energy Policy Report Update (2018 IEPR Update)	Docket No. 18-IEPR-03 JOINT AGENCY WORKSHOP RE: Southern California Energy Reliability

COMMENTS OF THE INDICATED SHIPPERS AND THE ENERGY PRODUCERS AND USERS COALITION

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January 25, 2019

TABLE OF CONTENTS

Pages

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The Indicated Shippers[1] and the Energy Producers and Users Coalition (EPUC)[2] appreciate the opportunity to offer comments in response to the January 11, 2019 joint workshop of the California Energy Commission and the Public Utilities Commission of the State of California (Commissions) on Southern California Energy Reliability (Joint Agency Workshop). The Indicated Shippers represent the interests of large natural gas end-users, producers and marketers with operations in Southern California. EPUC represents the interests of large natural gas end-users, including industrial oil and gas production and refining and related cogeneration operations. Indicated Shippers/EPUC have a strong interest in maintaining supply reliability and

[1] Indicated Shippers represents the following companies in this proceeding: California Resources Corp., Chevron U.S.A., Inc., ConocoPhillips Company, PBF Energy Western Region, Phillips 66 Company, and Tesoro Refining & Marketing Company LLC.

[2] EPUC represents the following companies in this proceeding: California Resources Corp., Chevron USA, PBF Holding Company, and Phillips 66 Company.

minimizing price spikes and volatility in the natural Southern California natural gas and electricity markets.

I. INTRODUCTION

The Southern California gas and electricity systems hang on a precipice over operational failure, gas curtailment and electric blackouts as a result of natural gas storage and transmission constraints on the Southern California Gas Company (SoCalGas) system. The region has avoided unmitigated disaster thus far due in part to weather conditions, agency coordination and the efforts of noncore customers to tightly balance their demand and supplies. With no margin for error, however, the Commissions' efforts to identify and deploy every available preventive tool are well placed.

Tools and solutions fall into three categories: (1) infrastructure security, (2) operational efficiency and (3) the efforts of end-users and their suppliers to keep the system in balance. Under existing conditions, none of these solutions can be ignored. Infrastructure improvements are necessary to secure long-term reliability and stability. But in the interim, prompt repair work on impaired pipelines, operational efficiency and end-use balancing are most critical. These comments are organized to provide recommendations on the most effective near-term and long-term solutions.

Consistent with this outlook, the Indicated Shippers/EPUC recommend that the Commissions continue to support the beneficial measures adopted in the wake of the Aliso Canyon crisis and focus additional effort on other issues that remain unaddressed. Specifically, the CPUC should continue to maintain two important tools adopted earlier in the process, including:

- ✓ The refined curtailment protocols[3] developed to avoid a broader collapse of Southern California energy markets under constrained system conditions; and
- ✓ The Operational Flow Order (OFO) protocols[4] developed by stakeholders to improve the capabilities of SoCalGas's System Operator to maintain system balance.

Regarding infrastructure solutions, the Commissions should direct its focus toward the following:

- ✓ Promptly implement incentives to drive more focused efforts by SoCalGas to expedite infrastructure repair, particularly Lines 4000/235-A;
- ✓ Exert greater control over SoCalGas's pipeline project management and require more useful public status reporting; and
- ✓ Allow additional flexibility in the use of Aliso Canyon.

Regarding operational solutions, the Commissions should prioritize the following:

- ✓ Immediately require balancing by SoCalGas's Gas Acquisition Department of actual core deliveries with estimated actual core consumption during OFO events.

While these actions each will move Southern California toward reduced risk of system supply failures, infrastructure failures and price volatility, the Commissions must avoid measures that simply shift the management of existing risk from one party to another without improving physical conditions. In particular, the Southern California Edison Company (SCE) proposal provided during the January 11, 2019 workshop for a new SoCalGas core-like gas supply service for electric generators should not be adopted. It would shift risk from SCE to SoCalGas with no apparent physical system benefits and would unwind decades of natural gas policy. Instead,

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3 *See* D.16-07-008.
4 *See* D.16-06-021.

policymakers must recognize the unique natural gas risk and costs inherent in electric generation dispatch and encourage SCE to employ the tools available to manage that risk.

II. STORAGE AND PIPELINE INFRASTRUCTURE ARE AT THE HEART OF THE PROBLEM

A. Storage and Pipeline Capacity Are Insufficient to Mitigate Reliability Risks in Southern California

The high prices and volatility experienced in the Southern California natural gas and electricity markets should come as no surprise to policymakers. In 2004, the CPUC took steps to ensure that "there is sufficient firm interstate and intrastate pipeline capacity to serve California" and that "storage facilities will be fully and beneficially utilized…."[5] After extensive review, the CPUC found that SoCalGas had sufficient pipeline and storage capacity at that time,[6] although even then SCE raised questions about the amount of slack capacity needed to support reliability.[7] The CPUC analysis recognized the interdependency of pipeline capacity and storage infrastructure.[8] In particular, it observed:

> Enough capacity on the backbone system to satisfy demand on an average day is not adequate for system planning purposes if planners cannot depend on storage gas to make up the difference on the most severe peak day.[9]

It also recognized the critical nature of storage: "Storage is a unique service. There is value to maintaining physical reserves that cannot be matched through paper transactions, or flowing supplies."[10]

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5 D.06-09-039, *Phase 2 Order Addressing Infrastructure Adequacy & Slack Capacity, Interconnection & Operational Balancing Agreements, an Infrastructure Working Group, Natural Gas Supply and Infrastructure Adequacy for Electric Generators, Natural Gas Quality, and Other Matters*, at 4.

6 *Id*., Finding of Fact 12 at 172 and Finding of Fact 26 at 173.

7 *Id.* at 13-15.

8 *See, e.g., id.*at 20 ("A pipeline is only sufficient if it works in harmony with the remaining infrastructure to provide relative assurance of meeting customers' needs.").

9 *Id.* at 24.

10 *Id.* at 45.

Despite the CPUC's focus on electricity reserves and reliability,[11] it has not revisited natural gas infrastructure adequacy over the past decade. And since it determined 13 years ago that all was well in the Southern California natural gas market in 2006, conditions have changed dramatically. Both storage and pipeline capacity have diminished to roughly half of the capacity the Commission found to be sufficient in D.06-06-039.[12]

	2006[13] (Bcfd)	**2019 (Bcfd)**
Backbone Capacity	3.875	2.87(1)
Firm Withdrawal Capacity	3.175	.88(2)
Peak-Day Demand	5.578 (3.414 Core 1-35) (2.164 Noncore)	5.154 (3.511 Core 1-35)(3) (1.643 Noncore)(4)
Peak-Day Reserve Margin	26%	(27%)

(1) Data from January 1, 2019 Envoy "Available Capacity v. Scheduled" adjusted to reflect unusable California production capacity[14]
(2) SoCalGas January 8, 2019, letter to Energy Division.
(3) 2018 California Gas Report, Peak Day Demand, p. 96
(4) 2018 California Gas Report, Winter Cold Day Demand, p. 97

The shortfall and its consequences are painfully obvious to regulators and market participants alike.

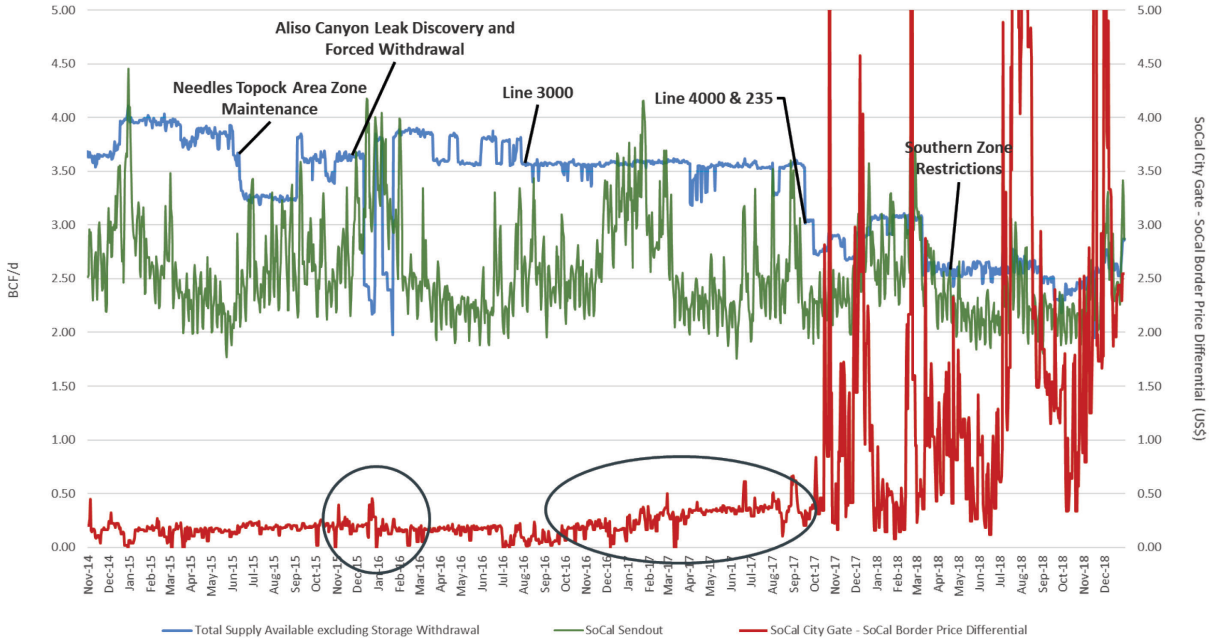
B. Storage and Pipeline Infrastructure Problems Have Snowballed to Create Supply Reliability Risk and Price Volatility

The Indicated Shippers/EPUC presented data at the Joint Agency Workshop showing a

[11] Michel P. Florio, on behalf of TURN, drew the obvious connection between this examination and "historical reliability planning for electric service." *Id*.at 9.
[12] D.06-06-039 at 22. The table draws from Table 7 of D.06-06-089.
[13] Values drawn from Table 7 of D.06-09-039.
[14] Physical receipt point capacity for California production far exceeds supply available behind the receipt points. On January 1, 2019, approximately 330 MMcfd of receipt point capacity was available, but only 82 MMcfd of supply was scheduled, leaving 248 MMcfd unusable.

clear relationship between infrastructure constraints and the differential between Southern California border and SoCalGas City Gate prices (Price Differential). While market commentary can be speculative, the SoCal City Gate price response appears related to the ability to access additional supply to meet demand spikes. Note that whenever the difference between "Total Available Supply"[15] (blue line) and "Total Sendout"[16] (green line) narrows, the Price Differential (red line)[17] tends to increase and become more volatile.

Figure 1



The initial loss of Aliso Canyon increased volatility, particularly when SoCalGas was making

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15 The blue line represents supply capability. It is the operationally available receipt capacity into SoCalGas's backbone transportation service for the Northern, Southern and Wheeler Ridge transmission zones plus the scheduled in-state production volumes for the same time period. In short, it is the supply available independent of storage withdrawal volumes. This data is sourced from the SoCalGas Envoy EBB System.

16 The green line represents SoCalGas system send-out (i.e. natural gas consumption) and does not include storage injection volumes. This information is sourced from the SoCalGas Envoy system.

17 The red line represents the difference between the daily index for SoCal Citygate minus the daily index for SoCal Border. The source is Platts Gas Daily.

forced withdrawals from the field in late 2015. The capacity reduction on Line 3000[18] likewise put upward pressure on the Price Differential and increased volatility. The graph leaves little doubt, however, that the coup de grâce was the loss of Line 235-A and the related capacity reduction on Line 4000.[19]

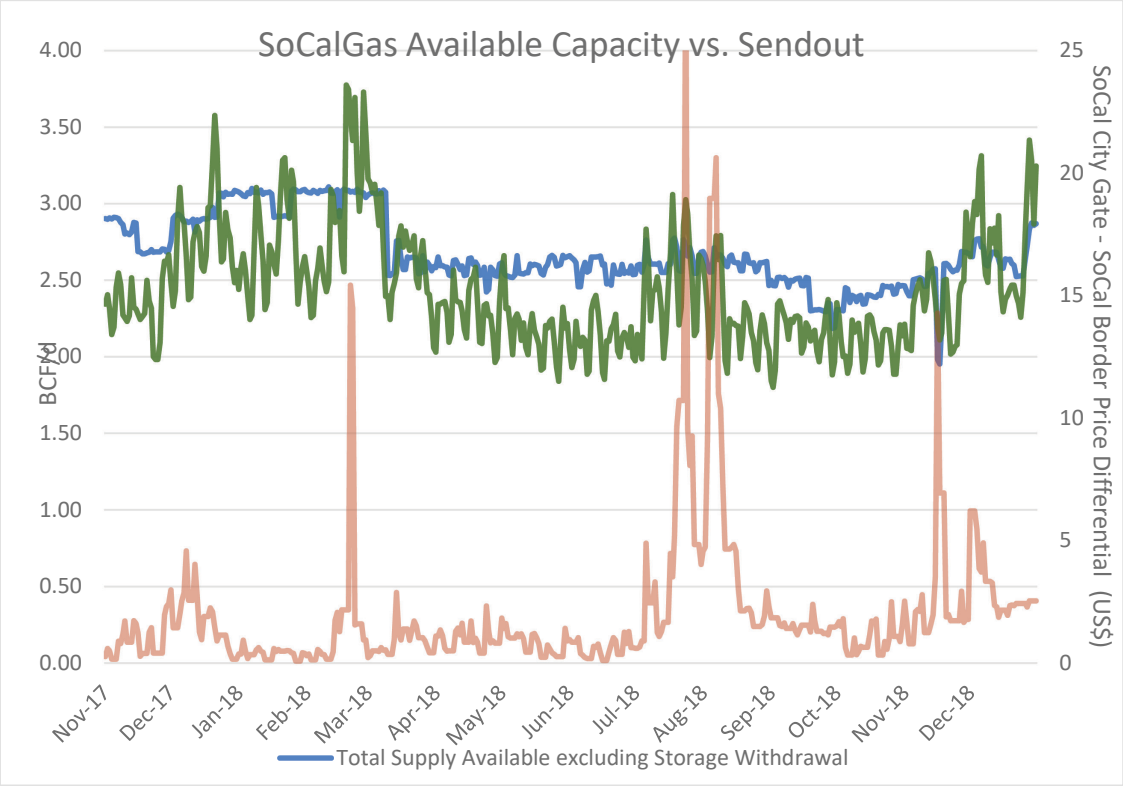
Commissioner Randolph appropriately asked during the Joint Agency Workshop why there was not complete correlation between the reduction in supply and demand (the white space between the blue and green lines) and the Price Differential. As illustrated in Figure 2 below, multiple occasions where Total Sendout exceeds Total Supply Available can result in different effects on pricing. (Please note, the Price Differential scale for Figure 2 differs from the Figure 1 scale.) This is due partially to core customers tapping into their storage reserves. The SoCalGas Gas Acquisition Department (Core) controls over 90% of the storage on the utility's system, allowing them to withdraw from storage to meet rising demand and reduces their need to procure additional supply in the marketplace. This access to storage most likely mitigated the effect of the demand spike on winter pricing (December 2017 to January 2018 and currently December 2018 to January 2019). However, when access to withdrawal volumes from storage were presumably less available in late February and March of 2018, the effect on pricing was greater. Figure 2 further illustrates the price swing from the demand increase occurring in July and August of 2018, which was likely due to the result of rising noncore customer demand (specifically electric generation) without the ability to access withdrawal volumes because

[18] Maintenance projects on Line 3000 began in 2016 to address serious defects from an in-line inspection.

[19] On October 1, 2017, Line 235 ruptured, which lead to safety concerns about nearby Line 4000, which was also taken out of service. "Together, the loss of the two major transmission pipelines resulted in an 800 million cubic feet per day (MMcfd) reduction in total SoCalGas system pipeline capacity." *Winter 2017-18 SoCalGas Conditions and Operations Report Prepared by Energy Division Staff*, Dec. 6, 2018, at 3.

electric generation customers have no access to storage. The resulting price response was needed to incentivize other noncore customers to reduce their demand on the system or to incentivize the Core to withdraw supply from storage and sell into the marketplace. There are certainly other factors to consider when analyzing price response due to market supply/demand fluctuations such as demand uncertainty, upstream market conditions, etc. but access to storage has a significant influence on pricing when demand exceeds total receipt point availability.

Figure 2



The visual representation of the price and volatility response to the snowball effect of SoCalGas's ever increasing list of infrastructure issues highlights the urgency of repairing constrained infrastructure. Restoring reserve pipeline capacity and ensuring there is adequate storage will foster reliability, lower pricing, reduce volatility, and provide for diversity in supply sources, which will collectively result in a more stable price environment for consumers.

III. STORAGE AND PIPELINE INFRASTRUCTURE MUST BE AT THE CENTER OF THE SOLUTION

The solution to the extreme pricing and volatility is to restore the reserve capacity (i.e. the pipeline capacity in excess of peak demand) and adequate storage capability (i.e. storage capacity available to the marketplace rather than only those entities who receive an allocation per the tariff). In the near-term, pending resolution of I.17-02-002, the Commissions should be laser-focused on improving SoCalGas's pipeline restoration efforts and permitting the utility to optimize its use of Aliso Canyon to reduce reliability risk and price volatility, discussed above. In the long-term, however, timely resolution of I.17-02-002 is critical to the Southern California market.

A. SoCalGas's Management of Pipeline Repair and Maintenance Projects Needs Substantial Improvement

SoCalGas's resolution of pipeline outages has been characterized by delay and poor communication. There is substantial room for improvement, which can only be achieved with a higher level of regulatory oversight.

SoCalGas's efforts to repair pipelines and alleviate constraints appear inadequate from a public point of view. Line 3000 had maintenance reductions for more than two years before the remediation was completed. Line 4000 capacity has been reduced since September 18, 2017 and Line 235-A has been out since the rupture on October 1, 2017. The maintenance schedule as of the 9th showed a capacity reduction of more than a Bcfd. Most troubling, after 16 months it has an end date of "TBD" (which is the case for nearly all maintenance events). Compare this with the Enbridge pipeline rupture on October 9, 2018. Line 235-A was a 30" pipeline in a rural, remote area; the Enbridge rupture was a 36" pipeline in a rural, remote area. While SoCalGas seems to have shown no progress in 16 months, Enbridge successfully completed the repair of

the rupture by October 31, 2018 – less than 30 days later.[20]

Making matters worse, customers and their suppliers have very little information about any of these outages. The information SoCalGas provides in its Envoy maintenance schedule – its only communication with the market – is extremely limited. Today, the only information provided in the schedule related to the outage of Lines 4000/235 is "restricted operation of L4000 and L235 outage."[21] SoCalGas has not provided any progress report on its activities, discussed barriers to completion or tentative schedules. During the repair process, Enbridge provided 9 notices between the time of the rupture and completion of repairs. For example, it reported when it was "constructing a temporary access road," "preparing the site," status of the Transportation Safety Board oversight. And it has since provided notices as it gradually increases pressure on the line. In comparison, communication provided by SoCalGas is undeniably deficient.

B. The CPUC Should Take Action to Address Infrastructure Issues

The CPUC is the only agency with the jurisdiction necessary to move SoCalGas off the dime to resolve its critical pipeline outages. The Indicated Shippers/EPUC recommend several actions that can be taken immediately:

1) Establish a firm date for timely completion of I.17-02-002 to address the long-term future of Aliso Canyon;
2) Support SoCalGas's efforts to optimize the prudent use of Aliso Canyon until its pipeline system is restored;

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[20] *See* Enbridge BC Pipeline Fact Sheet, *available at* https://www.enbridge.com/media-center/media-statements/prince-george-pipeline-incident

[21] https://scgenvoy.sempra.com/#nav=/Public/ViewExternalEbb.getMessageLedger%3FfolderId%3D9%26rand%3D470

3) Require SoCalGas to establish a tentative publicly available schedule to restore Lines 4000/235, identifying any perceived barriers;
4) Work with any other agencies as necessary to work through any identified barriers, such as permitting;
5) Require SoCalGas to create a public reporting log, with weekly entries showing actions taken and any changes in its tentative schedule; and
6) Establish a framework for penalties for failure of SoCalGas to complete certain milestones, as any Engineering, Procurement and Construction contractor would face. Incentives could be considered, although incentives are not appropriate in this case in light of the self-created nature of SoCalGas's problems.

These actions, together with the implementation of core balancing as discussed below, will support reduction in reliability risk and the risk of price volatility that have plagued Southern California over the past year.

C. A Focused Effort to Optimize Storage Use is Required

Storage is at the center of the Southern California crisis, and it must be part of both near-term and long-term solutions. To identify long-term solutions, the Commission must proceed with its work in I.17-02-002 as quickly as possible. Two years after the investigation was opened, no modeling results have been produced. Given the magnitude of the risk in Southern California, an investment of greater resources to move this proceeding is warranted. In the near-term, the Commission and SoCalGas must continue to work together to optimize the use of Aliso Canyon to mitigate supply reliability risks, as well as price volatility.

Mr. Schwecke on behalf of SoCalGas provided notice, consistent with SoCalGas's January 8, 2019 letter to the Energy Division, that the utility may withdraw gas from Aliso Canyon to meet higher customer demand, limit withdrawals at Honor Rancho and restore

inventory at Playa del Rey.[22] SoCalGas maintains that this approach is consistent with the Aliso Canyon Withdrawal Protocol and meets the prudent operator standard outlined in the Energy Division's September 15, 2018 letter regarding the Protocol.

The Indicated Shippers/EPUC support SoCalGas's use of Aliso Canyon to ensure supply reliability in the face of the significant pipeline constraints and reduced withdrawal capacity due to inventory levels at Playa Del Rey and Honor Rancho.[23] In addition, as Mr. Schwecke represented, using Aliso Canyon more flexibly will also allow the System Operator to reduce the number of disruptive OFO events.[24]

IV. All Customers Classes Must Be Required to Do Their Part to Promote System Reliability

The Indicated Shippers and other parties are engaged in the CPUC's review of solutions for Core Balancing in A.17-10-002. The Indicated Shippers have recommended expeditious implementation of Core Balancing based on "estimated actual" data until SoCalGas/SDG&E are able to refine their Advanced Meter Infrastructure (AMI) to provide more precise estimates of burn. This issue has languished for more than three years,[25] and Gas Acquisition has had ample notice that Core Balancing is on the horizon. Moreover, Gas Acquisition has adequate resources to balance its deliveries even without AMI Data Aggregation – indeed more resources than noncore customers can deploy:

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[22] January 8, 2019 letter from Rodger R. Schwecke to Edward Randolph regarding "Status of Southern California Gas Company's (SoCalGas) Underground Natural Gas Storage Levels and Use of Aliso Canyon" at 3 (SoCalGas January Letter).

[23] The SoCalGas January Letter states that non-Aliso Canyon withdrawal deliverability has been reduced to 1.036 Bcfd to 880 MMcfd.

[24] *SoCalGas*, January 11, 2019, Slide 8 https://www.energy.ca.gov/2018_energypolicy/documents/2019-01-11_workshop/2019-01-11_presentations.php

[25] *See* A.15-07-014, *Direct Testimony of Catherine E. Yap on Behalf of the Southern California Generation Coalition and Indicated Shippers*, March 11, 2016, at 2-9 (requesting that core customers be required to balance against daily metered usage data).

- ✓ SoCalGas/SDG&E admit that changes in bundled core usage are almost always a function of temperature variations, which "are almost never dramatic," and the utility has temperature and other needed data on a minute-to-minute basis.[26]

- ✓ With AMI meters installed for 99 percent of customers (at a cost of over $1 billion), the utility also has substantial, if not complete, consumption data.[27]

- ✓ Regardless of the caliber of AMI data, Gas Acquisition has access to "estimated actual" data in the same time frame that noncore customers receive their estimated burn from the System Operator.[28]

- ✓ Finally, and critically, Gas Acquisition holds almost all of the storage rights on the SoCalGas system and can take advantage of an additional nomination cycle late in the evening of the flow day that is not available to noncore customers without storage access. [29]

The fact that perfect knowledge of actual core burn may require improvement in AMI data collection and transmission should not be a reason for further delaying Core Balancing.

System conditions – conditions of the utility's own making – require immediate implementation of Core Balancing, using current tools available to Gas Acquisition. Indeed, implementing Core Balancing using estimated actual data is crucial for the Commission to ensure the right incentives. The Indicated Shippers urge the CPUC to quickly approve this proposal as a near-term tool to ensure balanced system operations.

V. THE COMMISSION SHOULD REJECT SCE'S PROPOSAL FOR A "CORE-LIKE" SERVICE FOR ELECTRIC GENERATORS

Colin Cushnie, on behalf of SCE, suggested during the Joint Agency Workshop that SoCalGas be permitted to offer electric generators a core-like supply service. Ostensibly, the impetus for this proposal was SCE's 2018 Energy Resource Recovery Account (ERRA)

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[26] *Response of Southern California Gas Company (U 904 G) and San Diego Gas & Electric Company (U 902 G) to the Motion of Southern California Edison Company on Behalf of the Customer Coalition for Consideration of Winter Reliability Measures,* filed in A.15-06-020 on Sept. 2, 2016 at 21.

[27] A.17-10-002, *Intervenor Testimony of Southern California Edison* Company, July 2, 2018, at 6:13:16.

[28] *See Responsive Testimony of Catherine E. Yap On Behalf of the Southern California Generation Coalition and Indicated* Shippers, filed in A.17-10-002 on Dec. 12, 2018 at 13:1-14.

[29] *See* Section IV *infra*.

undercollection of more than $800 million. While the gas market's influence on the undercollection will not be investigated until the utility's 2018 ERRA compliance proceeding before the CPUC, circumstances suggest a failure to adequately manage natural gas and power price risk.

While details are few, SCE's proposal appears to shift rather than reduce the costs and operational impacts inherent in supplying natural gas to a dispatchable power plant. Forecasting gas requirements for a dispatchable power plant presents a challenge if the plant does not know until the afternoon of a flow day whether and when it will be dispatched. Consequently, the generator may not have supply lined up and may need to go to the market to make purchases to meet its need. Moreover, because the generator has not scheduled the gas into the SoCalGas system – or has scheduled only in the last cycle of the day – its use of gas to meet its dispatch order may leave the SoCalGas system underdelivered. While aggregation of loads by a third-party marketer (or SoCalGas) may provide greater flexibility than if SCE managed its supply on its own, aggregation cannot mitigate a dispatchable generator's need to procure more gas than expected and the failure to nominate adequate gas supply.

It remains unclear what risk management tools SCE employed. Forward purchases or other risk management tools may have been available to reduce exposure to higher prices and volatility. In addition, greater risk management could be achieved if excess core storage were made available in the spring and summer months to electric generation and other noncore customers and their suppliers.

Creating a new "core-like" supply service for noncore customers would take the gas markets back to the early 1990s, when the CPUC determined that thirdparties, not the regulated utility, should provide gas supply for noncore customers. Before the state elects to introduce

substantial change into the market, it should pursue the infrastructure and operational issues discussed in these comments to reduce price and operational risks.

VI. CONCLUSION

For all of the foregoing reasons, the Indicated Shippers and EPUC request that the Commission implement the above-described recommendations.

January 25, 2019

Respectfully submitted,

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