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SoCalGas Comments on 2018 IEPR Update Scoping Order

Additional submitted attachment is included below.



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Subject: Comments on the 2018 Integrated Energy Policy Report Update Scoping Order 18-IEPR-01 - General/Scope

Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the 2018 Integrated Energy Policy Report Update (2018 IEPR Update) Scoping Order (Scoping Order), and provides feedback on several topics in the second part of the document, as well as an additional subject area for consideration: renewable natural gas.

A. Comments on the Proposed Topics in the Second Section of the 2018 IEPR Update

1. Underground natural gas storage will remain critical to ensuring long-term energy reliability in Southern California

SoCalGas supports further evaluation of strategies to provide for energy reliability—of both natural gas and electricity—in Southern California. Our customers expect the energy they use to be available when they need it, and state policy should support reliable energy delivery. As mentioned in earlier comments,¹ SoCalGas believes Aliso Canyon is crucial to achieving this goal, as it is strategically located to serve the load center of the greater Los Angeles area. The recent study conducted by the California Council on Science and Technology (CCST) concluded that underground natural gas storage is necessary for meeting winter demand for natural gas,² and that “California will likely rely on underground gas storage for the next few decades...”³

As the California Energy Commission (CEC) considers tools and tactics to ensure energy reliability in the electric and natural gas systems across Southern California as part of the 2018 IEPR Update process, we request that the future of Aliso Canyon not be considered a foregone conclusion. The CEC’s formal statements that Aliso Canyon should be closed in ten years is not

¹ SoCalGas comments on Proposed Final 2017 IEPR, February 7, 2018.

² Long-Term Viability of Underground Natural Gas Storage in California Summary Report. California Council on Science and Technology. January 2018. p. 9.

³ Long-Term Viability of Underground Natural Gas Storage in California. California Council on Science and Technology. January 2018. p. 664.

based on fact, but rather on policy, and undermines due process afforded to all parties in the California Public Utilities Commission’s (CPUC) open proceeding (I.17-02-002). SoCalGas suggests that the appropriate regulatory process be completed before the CEC recommends any plan for closure of Aliso Canyon. It is necessary that policy be guided by technical analysis, such as the California Council on Science and Technology (CCST) report, especially when assessing the energy needs of a region as large and as diverse as Southern California.

2. A diverse energy portfolio—including natural gas—is a prudent method to adapt to climate change

SoCalGas supports the goal of making the consideration of climate change a routine part of planning. We believe natural gas, power-to-gas (P2G), and renewable gas each play an important role in California’s climate adaptation and resilience. We ask staff to consider the following throughout the 2018 IEPR Update process.

A diverse energy portfolio is prudent risk management against climate change

Energy diversification is necessary as a climate adaptation strategy: the United Nations Framework Convention on Climate Change clearly states that expanding the energy portfolio increases system reliability in a cost-effective manner.⁴ Over-reliance on a single energy source can create avoidable and unnecessary risks for public safety and the economy. Maintaining diverse energy sources across the economy is a prudent measure to ensure resiliency. Gas technologies, including P2G and other distributed generation resources, should be part of California’s strategy to adapt to climate change.

The natural gas system is resilient in the face of natural disasters

Not only is the natural gas system a safe, reliable, and cost-effective resource, but it is also very resilient to extreme weather events, since it is mostly underground. According to a CEC staff paper on the topic, “[c]limate change appears to have little impact on natural gas availability...”⁵

For example, in 2012, after Superstorm Sandy, the entire natural gas system in the Northeast was essentially intact, allowing residents to use natural gas to support back-up generators, cook, and keep warm. Businesses with natural gas-powered fuel cells were able to operate, and compressed natural gas (CNG) buses in New Jersey were used to shuttle residents to safety.⁶ Last year,

⁴ United Nations Framework Convention on Climate Change, *Risk Management Approaches to Address Adverse effects of Climate Change*, available at http://unfccc.int/cooperation_support/response_measures/items/5003.php.

⁵ Potential Impacts of Climate Change on California’s Energy Infrastructure and Identification of Adaptation Measures, CEC, Staff Paper, January 2009, CEC-150-2009-001, at 11.

⁶ 5 Ways Alternative Fuels Aid Response to Hurricanes and Natural Disasters, Office of Energy Efficiency & Renewable Energy, September 20, 2017, available at <https://energy.gov/eere/articles/5-ways-alternative-fuels-aid-response-hurricanes-and-natural->

Hurricane Harvey reduced the nation's refining capacity by 30%: “While other fleets struggled with fuel shortages [CNG] shuttles were able to stay moving during and after the storm thanks to uninterrupted CNG supply.”⁷ Flooding closed 16 hospitals, but those that had combined heat and power systems were able to provide urgently needed medical attention. These are just a couple examples of the importance of supply diversification, and specifically distributed generation resources, which offer a clean, flexible, and reliable form of energy.

SoCalGas and other natural gas infrastructure stakeholders must be included in climate resiliency planning and development processes

To date, climate adaptation and resiliency planning processes have not been focused on Southern California natural gas infrastructure and the benefits it brings to the overall resilience of the state. For climate plans to be effective, every region of California must be considered and actively engaged.

3. P2G should be considered now, as part of the 2018 IEPR Update section on maintaining the reliability of the electricity system

As increasing amounts of renewable energy (such as from solar and wind generation) are introduced into the electric system, there is a greater need to match load to available resources and to store renewable electric energy for later use. Natural gas storage and generation is and can be relied upon to quickly respond to shortfalls and reduce stress on the grid caused by the intermittency of renewable power production. Additionally, P2G technology can support energy reliability in California and should be considered in depth in the 2018 IEPR Update.

P2G should be used as another measure in a diverse portfolio to support system reliability through the management of renewable energy overgeneration, providing flexible energy storage, resource adequacy and flexibility, identifying local capacity areas, and addressing regional reliability needs. This is especially important because P2G largely relies on existing natural gas infrastructure, existing permits, and existing rights-of-way.

While P2G was included in the Proposed Final 2017 IEPR, regulatory barriers to developing P2G need to be addressed and further research and development is required. SoCalGas has previously submitted comments^{8,9} that include an overview of P2G technology, how and where

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⁷ Ibid.

⁸ SoCalGas comments on 2017 IEPR Joint Agency Staff Workshop on the Review of the Actions and Status of State-level Energy Roadmaps. June 28, 2017.

⁹ SoCalGas comments on 2017 IEPR Joint Agency Workshop on Application of Distributed Energy Resources on the California Grid. July 13, 2017.

the technology is already in use, how it can help meet California’s air and climate change goals, and how it can help address resource adequacy and system reliability needs.

Like batteries, P2G technologies have excellent load-following capabilities, which are necessary to manage the intermittency of solar and wind resources. Unlike battery storage, however, P2G can store utility-scale quantities of energy indefinitely, without self-discharge. For example, wind power generated in March can be delivered into the high-value energy markets of August and September. This can be effective in alleviating the “ramping” problem experienced by electric utilities in the afternoon and evening periods. These unique attributes have the potential to enable very high levels of renewable energy use while maximizing economic value.

The hydrogen energy made during the P2G process can be returned to the grid when needed as carbon-free electricity via fuel cell. If large amounts of power are needed, the hydrogen can be synthesized into renewable methane and used to generate very low carbon electricity via advanced natural gas combined cycle power plants. The renewable methane made by the P2G process can also be used to decarbonize traditional natural gas end-uses, like cooking and space or water heating.

As a storage source, P2G is particularly flexible. It is uniquely able to scale from small, microgrid applications up to terawatt levels of energy storage at the utility scale. When connected to the gas network, P2G is also more geographically flexible than other bulk storage options like pumped hydro or compressed air. At high capacity, P2G has a lower cost and geographic footprint than batteries, which experience a significant increase in both cost and footprint as capacity scales up.¹⁰

P2G also provides many grid-balancing services under a range of conditions and over a wide span of durations—from very short to very long. The dynamic responsiveness of electrolyzers enables them to absorb power generation spikes, and by switching on and off, the electrolyzer can flatten out an intermittent resource—such as photovoltaic—at times when generation is variable. The ability of electrolyzers to provide various short-term ancillary services is significantly enhanced when connected to the gas grid and to generation resources that can be quickly dispatched. P2G’s ability to provide longer-term grid storage, ranging from several hours to months, derives primarily from the gas grid’s ability to receive, store, and distribute extremely large amounts of energy as hydrogen and methane.

Given the recent agency decisions at the state and federal level regarding energy storage resources participating in the wholesale electricity market and grid services, the CEC should

¹⁰ California Hydrogen Business Council, *Power-to-Gas: The Case for Hydrogen White Paper* available at: <https://californiahydrogen.org/sites/default/files/CHBC%20Hydrogen%20Energy%20Storage%20White%20Paper%20FINAL.pdf>.

consider all applicable energy storage technologies sooner rather than later. Thus, we urge the CEC to examine, in depth, the benefits P2G can provide as an energy storage resource and to make recommendations to advance the technology in the 2018 IEPR Update, rather than waiting for the 2019 IEPR.

4. Identifying strategies to achieve greater energy efficiency from the industrial and agricultural sectors will be crucial to meeting the state’s climate goals

SoCalGas supports the 2018 IEPR Scoping Order’s focus on identifying and pursuing additional energy efficiency savings from the agricultural and industrial sectors. Combined, these sectors represent the second largest sector in SoCalGas’ portfolio of natural gas consuming over 1 billion therms annually¹¹—a large opportunity for natural gas energy reductions through energy efficiency programs. Given the recommendation within the CEC’s Final Commission Report on Senate Bill (SB) 350 to review utility agricultural and industrial programs and methods for projecting savings in the 2018 – 2028 CPUC potential study,¹² emphasis should be placed on behavioral, operational, and retro-commissioning activities in these sectors through Strategic Energy Management (SEM) programs being developed and implemented by the Investor Owned Utilities in 2018. SEM is a program intervention strategy focused on achieving deeper and permanent energy efficiency levels for larger operations through improved customer operational and maintenance practices and energy efficiency equipment installations.¹³ Given the strategy of SEM programs targeting the customer’s decision-making process to integrate energy efficiency into their capital and process improvement decisions,¹⁴ SEM programs address the central challenge identified by the CEC, given the uniqueness presented by different customers and industries within the industrial and agricultural sectors.¹⁵

Further, the 2017 IEPR, in its recommendation taken from the CEC’s Final Commission Report on SB 350, includes the potential to achieve emissions reductions from fuel substitution opportunities in industrial facilities. As the CEC pursues additional energy efficiency savings potential through the programs identified in Public Resource Code 25310(d), staff should align any industrial sector fuel substitution recommendations with the work planned with utilities and the CPUC to develop guidelines for conservation voltage-reduction techniques and fuel substitution that can count toward SB 350 goals. These efforts should include coordination with the state’s Short-Lived Climate Reduction Pollutant Strategy to develop recommendations about

¹¹ SoCalGas Energy Efficiency Business Plan, p. 6.

¹² California Energy Commission, Final Commission Report – Senate Bill SB 350: Doubling Energy Efficiency Savings by 2030, p. 67.

¹³ SoCalGas Energy Efficiency Business Plan, p. 181.

¹⁴ Kolwey, N. & Chittum, A. Industrial energy efficiency programs and supporting policies: A white paper, p. 4-5.

¹⁵ California Energy Commission, Final Commission Report – Senate Bill SB 350: Doubling Energy Efficiency Savings by 2030, p. 47.

the complementary or competing roles of substituting electricity for natural gas and replacing natural gas with renewable gas as strategies for reducing greenhouse gas emissions.

5. SoCalGas supports a neutral, fact-based assessment of the future of natural gas in California's buildings

SoCalGas welcomes the CEC's proposal to discuss the long-term role of natural gas in California buildings, the Pacific Coast Collaborative's thermal decarbonization regional goals, and other greenhouse gas reduction policies and strategies relevant to California's built environment in the 2018 IEPR Update.

However, we wish to reiterate that electrification of all energy end-uses is not a foregone conclusion. According to the California Air Resources Board (CARB), natural gas combustion in buildings represents less than 7.5 percent of California's greenhouse gas emissions, far less than transportation, for example, which accounts for 40 percent.¹⁶ Inaccurate statements about the emissions from California's buildings and the intrastate pipeline system have been put forward by advocates of total electrification; SoCalGas therefore asks that the CEC approach this section of the 2018 IEPR Update with particular care. The CEC should debunk untrue statements presented as facts and reaffirm a commitment to a fair, inclusive, and unbiased assessment of such an important topic.

6. The CEC must make stronger recommendations for the development and use of renewable gas

The 2018 IEPR Update Scoping Order does not include renewable gas as a subject for discussion. However, given the pressing timeline to reach the goal of reducing methane significantly by 2030, the CEC should not wait to address the status of renewable gas. SoCalGas recommends that the CEC fulfill its statutory obligation under SB 1383 to "develop recommendations for the development and use of renewable gas, including biomethane and biogas."¹⁷

SB 1383 specifically directed the CEC to develop policy recommendations for the development and use of renewable gas and the development of cost-effective strategies, including infrastructure development and procurement policies, that will encourage the production of renewable gas in the 2017 IEPR.¹⁸ SoCalGas reiterates our previous concern that the 2017 IEPR falls short of the SB 1383 mandate.¹⁹ The CEC did not make sufficient recommendations on

¹⁶California Air Resources Board 2017 Greenhouse Gas Emission Inventory.

<https://www.arb.ca.gov/cc/ceei.htm>

¹⁷ California Health and Safety Code §39730.8(b).

¹⁸ Ibid.

¹⁹ SoCalGas Comments on Draft 2017 IEPR. November 13, 2017.

increasing the development and use of renewable gas, particularly with respect to infrastructure development and procurement policies.

Without specific policies that prioritize and support in-state development of pipeline-injected renewable gas, California will not meet the goal of 40% reduction of methane below 2013 levels by 2030. It is well documented that most methane emissions in California come from the agricultural and waste sectors.²⁰ Capturing these emissions will be integral to lowering methane emissions in California in a reasonable and economic way.²¹ The existing natural gas infrastructure provides a solution by transporting renewable gas over existing transmission and distribution infrastructure. These efforts would have the added benefit of promoting economic development in California's agricultural regions and enhancing energy reliability in California by developing new renewable energy sources.

Specifically, the CEC should include pipeline injection for direct end-use as an explicit recommendation for the long-term use of renewable gas. Using the pipeline system will provide this resource access to the broadest possible market, maintaining long-term value while maximizing the number of end-uses to which it can be delivered.

Additionally, SoCalGas believes that market stability through a utility procurement requirement is necessary to increase production, drive down costs over time, develop new gasification and other renewable gas technologies, and provide the volumes necessary to move renewable gas to the core market. This will drive greater greenhouse gas reductions without the massive disruption and investment that would be required for individual customers to replace existing equipment and appliances. SoCalGas also recommends that the CEC support facilitating long-term supply contracts, which would enable capital financing of long-term production projects and provide further market certainty for the renewable gas market.

B. The 2018 IEPR Update Should Address the Importance of Natural Gas Infrastructure to Advancing the State's Long-term Safety, Reliability, and Climate Objectives

Part II of the 2018 IEPR Update Scoping Order includes issues that were not fully addressed in the 2017 IEPR. SoCalGas notes that the Final 2017 IEPR does not study the need to maintain and modernize the state's natural gas infrastructure system. As SoCalGas noted in its comments²² on the Draft 2017 IEPR, natural gas infrastructure is of paramount importance to

²⁰ Proposed Final 2017 IEPR, p. 279.

²¹ See October 2, 2017, Introduction to the Phase I Report of the California Methane Survey from the Staff of the California Air Resources Board (CARB), available at https://www.arb.ca.gov/research/methane/CA_CH4_Survey_Phase1_Report_2017.pdf.

²² http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-01/TN221758_20171113T165037_Southern_California_Gas_Company_Comments_SoCalGas_Comments_on_t.pdf

meeting the state’s safety, reliability, and climate goals. SoCalGas therefore requests that the 2018 IEPR Update include this issue, as summarized below.

1. Consider the importance of maintaining and updating natural gas pipeline infrastructure as California pursues its 2030 and 2050 climate goals

New or upgraded infrastructure is necessary to meet the state’s stringent safety standards for gas pipelines, which continue to be needed for heating homes and businesses as the state advances toward its climate goals. The CEC has recognized the need to address the reliability of the electric grid as additional renewable energy resources are added. Natural gas-fired electric generation continues to play a role in maintaining reliability as more intermittent renewable energy resources are integrated. In addition, meeting the state’s renewable gas goals requires a safe and reliable gas supply. Finally, natural gas pipeline upgrades can support methane leak reduction policies, which further advance California’s climate goals.

SDG&E and SoCalGas’ co-sponsored Pipeline Safety & Reliability Project (“PSRP”), for example, would enhance public safety, improve reliability in a natural gas-constrained region, facilitate renewable gas usage in the greater San Diego area, and modernize the natural gas system through state-of-the-art technology upgrades.

2. Recognize and evaluate San Diego’s constrained natural gas supply system, which continues to threaten reliability and the integration of renewable energy resources

The Scoping Order includes consideration of energy reliability in Southern California as an issue for study in Part II. To fully address that issue, the CEC must address the natural gas transmission system constraints in San Diego. San Diego currently relies on just two transmission pipelines to bring natural gas into the region. One of those pipelines is Line 1600, which has been subject to multiple emergency mandates issued by the CPUC since July 2016, including requirements to reduce operating pressure by 20%, perform additional inspections, and perform additional surveys. As part of PSRP, SDG&E and SoCalGas propose to permanently lower the pressure of Line 1600 to distribution service level. In addition, without any changes the natural gas transmission system constraints will prevent the region from fully taking advantage of the benefits of renewable natural gas as California moves toward achieving its climate goals.

C. Closing Comments

SoCalGas thanks the CEC for the opportunity to comment on the 2018 IEPR Update Scoping Order and looks forward to engaging with the CEC and other stakeholders throughout this process. We believe a diverse energy portfolio that includes natural gas, renewable gas, and other emerging gas technologies provides the best pathway to reach California’s ambitious climate and environmental goals in a way that is fair and affordable to all Californians.

Sincerely,

/s/ Tim Carmichael

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