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Additional submitted attachment is included below.

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California Energy Commission
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**Subject: Workshop on the Draft 2016 Integrated Energy Policy Report
Update, Docket Number: 16-IEPR-01**

Dear Chairman Weisenmiller and fellow Commissioners:

Southern California Gas Company (SoCalGas) and San Diego Gas & Electric (SDG&E) appreciate the opportunity to submit comments on the California Energy Commission's Draft (CEC) 2016 *Integrated Energy Policy Report (IEPR) Update* (Docket Number: 16-IEPR-01) dated October 2016. The CEC has the important task of preparing IEPRs that assess "major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors", which involves collaboration with various federal, state and local agencies and stakeholders to "identify critical energy issues and develop strategies to address those issues."¹ We commend the CEC and various stakeholders for working diligently throughout the process to develop a comprehensive update.

Overall, SoCalGas and SDG&E support the policy statements and vision communicated in the Draft 2016 IEPR Update. We offer for your consideration the following observations and specific comments that we believe should be incorporated as appropriate into the final 2016 IEPR Update.²

SoCalGas and SDG&E agree that safe, reliable, resilient and flexible energy infrastructure is essential to support California's dynamic and evolving energy needs.

The Draft 2016 IEPR Update recognizes California's tremendous progress and continued commitment to improve the environmental performance of the energy sector.³ The reduction in greenhouse gas (GHG) emissions from the electricity sector is attributed to increases in renewable energy, mainly from wind and solar, while transitioning away from coal-fired and nuclear generation.⁴ Notably, the integration of dramatically more wind and solar resources has occurred

¹ Draft 2016 IEPR Update at v.

² SoCalGas/SDG&E have also identified additional minor comments and technical clarifications, which are enclosed as Attachment A for your consideration.

³ Draft 2016 IEPR at 3.

⁴ Draft 2016 IEPR at 3.

without significant disruptions to grid reliability.⁵ These accomplishments in grid reliability and GHG reductions are due in large part to the reliability and flexibility of natural gas as a resource.

The Draft 2016 IEPR Update confirms that the need for reliable and flexible infrastructure will only increase over time as California works to accommodate a growing population, integrate new technologies, and tackle the environmental and climate impacts of additional sectors other than electricity generation. For California to continue transforming its energy system, the Draft 2016 IEPR Update acknowledges the “need for more resources that can be depended on to quickly and cost-effectively ramp up or down to help maintain the reliability of the electricity system” and the need for flexibility to compensate for what has become *hourly* changes in variable renewable generation and energy demand, as well as planned and unplanned outages.⁶ In addition, the Draft 2016 IEPR Update recognizes the need to transition California’s transportation system away from gasoline, and notes that the need for a safe, reliable and flexible energy grid will only grow as California seeks to transition its transportation system away from petroleum.⁷

SoCalGas/SDG&E share these views.

California has recognized the benefits of natural gas, including its role in support of reliable and flexible electric generation, decarbonizing the transportation sector.

The CEC identified strategies to maximize the environmental and societal benefits of natural gas and reported those findings in the 2015 IEPR. Similarly, in the Draft 2016 IEPR Update, the CEC finds that natural gas-fired power plants currently offer the most flexibility for “quickly, reliably, and cost-effectively” ramping up or down to balance electricity supply and demand.⁸ SoCalGas and SDG&E concur with the CEC’s observations and believe that natural gas infrastructure will continue to facilitate the integration of more renewable energy onto the electric grid and that “[e]ven as the state works to increase demand response and storage capacity by orders of magnitude, it will likely depend on some natural gas-fired generation to meet its needs for flexible resources.”⁹

Just as natural gas has enabled the rapid transition to renewable resources over the last decade, it will continue to play a critical role in meeting basic energy needs while also serving as a foundation for innovation and grid reliability. This is especially true as California looks to reduce dependence on petroleum and transition its transportation system to zero and near-zero emission technology. The CEC acknowledges that a “transformation of the transportation sector” is required if the state is to meet “Governor Brown’s goal to reduce petroleum use in car[s] and trucks by up to 50 percent by 2030.”¹⁰

For this reason, the final 2016 IEPR Update should reflect recent studies and policies that address transportation, as well as biogas and areas of promising research, such as power-to-gas, power-to-hydrogen and biomass. For example, although the Draft 2016 IEPR Update focuses on transportation electrification and “zero” emission vehicles, state policy promotes and calls for

⁵ The CEC, however, acknowledges that “[a]s more variable renewable electricity generating resources, like wind and solar, are added to California’s electricity resource mix, it becomes more challenging to integrate them while maintaining grid reliability, safety and security.” Draft 2016 IEPR Update at 23.

⁶ Draft 2016 IEPR Update at 5 (emphasis added).

⁷ Draft 2016 IEPR Update at 6-7.

⁸ Draft IEPR Update at 5.

⁹ Draft IEPR Update at 6.

¹⁰ Draft 2016 IEPR Update at 73.

investments in “near-zero” emission technologies (*i.e.*, alternative fuels including natural gas, biofuels and hydrogen). In July 2016, the CEC, together with other state agencies, issued the Sustainable Freight Action Plan (SFAP) in response to Governor Brown’s call to transition the California freight system to one that is more efficient, economically competitive and less polluting. The SFAP finds that California’s freight transportation system “generates a high portion of local pollution in parts of the State with poor air quality” and that “reducing these harmful pollutants is an important local, regional, and State priority.”¹¹

The CEC has long considered natural gas as a transportation fuel that has the potential to reduce carbon emissions and lower criteria pollutant emissions.¹² Many of California’s transit, municipal service, waste disposal and freight transport fleets have already converted to their vehicles to natural gas.¹³ Previous CEC reports have highlighted that Cummins Westport has developed a now commercially-available heavy-duty natural gas engine that will reduce oxides of nitrogen (NOx) emissions by more than 90 percent and will play an important role in further improving air quality in California.¹⁴ This breakthrough in technological advancement has the potential to significantly reduce emissions related to freight- and goods-movement in the State. Finally, the CEC 2017-2018 Investment Plan Update states that this natural gas engine, “when combined with biomethane fuel, can reduce the lifecycle emissions of medium- and heavy-duty vehicles to levels near or equal to those of zero emission electric vehicles”.¹⁵

Near-zero natural gas technologies for both on-road and off-road sectors, when fueled by renewable natural gas (RNG), will considerably help achieve the State’s emissions targets. Because RNG is generated from organic waste sources,¹⁶ its use not only helps reduce transportation emissions, but can also reduce methane emissions that would otherwise be released into the air from sources such as landfills and dairies.¹⁷ Alternative fuels, such as natural gas, will provide a commercially proven, broad-based, and affordable strategy to achieve major reductions immediately in emissions of criteria pollutants, air toxins, and GHGs in the transportation sector.

In light of these state policies and recognized benefits of natural gas, the 2016 IEPR should expressly promote prudent investments in natural gas infrastructure to ensure the safety, reliability, resiliency and flexibility of the energy grid.

In order to effectively advance California state policies and achieve the recognized benefits of natural gas, the Draft 2016 IEPR Update should encourage and promote investments in natural gas infrastructure that can accomplish multiple objectives simultaneously – *e.g.*, safety, reliability, resilience and energy grid flexibility –in order to meet California’s dynamic and evolving energy

¹¹ SFAP at 1.

¹² 2015 IEPR at 153; CEC AB 1257 Report at 42.

¹³ 2015 IEPR at 155.

¹⁴ AB 1257 Report at 42; 2015 IEPR at 154; “Game Changer Technical White Paper”, Gladstein, Neandross & Associates, May 3, 2016. http://ngvgamechanger.com/pdfs/GameChanger_FullReport.pdf. The Cummins Westport 8.9 liter natural gas engine meets the California Air Resources Board’s lowest-tier optional low-NOx emission standard at 0.02 g/bhp-hr NOx.

¹⁵ 2017-2018 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program <http://www.energy.ca.gov/2016publications/CEC-600-2016-007/CEC-600-2016-007-SD.pdf>

¹⁶ Figure 33 of the Draft 2016 IEPR Update notes that organic waste makes up the top three sources of methane emissions in California. In April 2016, CARB’s Short-Lived Climate Pollutant (SLCP) Strategy finds that methane from organic waste (from farms, dairies, landfills and wastewater) makes up 82% of California’s methane emission inventory.

¹⁷ Utilizing organic sources of methane is also a key strategy in CARB’s SLCP Strategy.

needs and climate policies. The Draft 2016 IEPR Update notes that California is “grappling with the legacy of an aging infrastructure” and that in recent years, the state has suffered two major disruptions in its energy infrastructure that have tested the ability to provide reliable energy services to Southern California.¹⁸

These are not the only events that test the ability to provide reliable and flexible energy services to Southern California. The CEC previously identified other constraints on critical natural gas infrastructure in Southern California—constraints which can be mitigated.¹⁹ The 2016 IEPR Update should discuss SoCalGas and SDG&E’s efforts for prudent and cost-effective solutions to reduce these constraints while modernizing the natural gas system in a manner that would significantly enhance the overall safety, reliability, resiliency and flexibility of the Southern California energy grid.

Specifically, the final 2016 IEPR Update should reflect the following recent developments that have occurred since the 2015 IEPR:

- *Aliso Canyon Natural Gas Storage Facility*
The Draft 2016 IEPR Update acknowledges the critical role of the Aliso Canyon Storage Facility in providing energy reliability throughout Southern California. The Draft 2016 IEPR Update should also acknowledge the adverse environmental consequences of natural gas curtailments that could arise from a sustained moratorium prohibiting injection of natural gas at the Aliso Canyon Storage Facility, which could necessitate increased reliance on more GHG-intensive fuels, such as diesel, to fuel back-up generators.

The Draft 2016 IEPR Update should be modified to discuss the benefits of resuming natural gas injection operations at Aliso Canyon. Aliso Canyon is “critical to the natural gas transmission and distribution system in Southern California”²⁰, which offers key reliability and flexibility benefits to the energy sector. Indeed, the CEC acknowledges that the “current constraints at Aliso Canyon are unprecedented [and] create uncertainty about the reliability of energy system operations in the region.”²¹

Over the past year, SoCalGas has implemented a comprehensive suite of integrity assessments at Aliso Canyon, including those completed under the direction and oversight of the Division of Oil, Gas and Geothermal Resources (DOGGR), in consultation with independent technical experts from the Lawrence Berkeley, Lawrence Livermore, and Sandia National Laboratories. Moreover, SoCalGas reconstructed wells to be utilized for injection or withdrawal of natural gas with new tubing and packer configurations (with new steel pipe) to flow natural gas solely through the inner tubing and operate with two complete barriers to mitigate the potential for an uncontrolled release of natural gas. In addition SoCalGas implemented several technology and operational enhancements, including installation of real-time pressure monitors and fence line methane detectors, to continuously monitor the integrity of the facility going forward. On November 1, 2016,

¹⁸ Draft 2016 IEPR at 7. Citing the gas leak at Aliso Canyon natural gas storage facility in late 2015 and the unexpected shutdown of the San Onofre Nuclear Generating Station in 2012 and permanent closure in 2013.

¹⁹ 2015 IEPR at 149.

²⁰ Draft 2016 IEPR at 82. (“SoCalGas historically has relied on the Aliso Canyon storage facility to meet hourly energy demand changes, particularly the large and rapid swings in gas demand for electricity generation in the summer.”)

²¹ Draft 2016 IEPR at 83.

SoCalGas requested regulatory approval to resume injection operations through wells approved by DOGGR. Resuming injection operations at the Aliso Canyon Storage Field as soon as possible offers a prudent and cost-effective way to maintain the reliability and flexibility of the natural gas transmission system that supports Southern California.

- *CPUC Denial of North-South Pipeline to Improve Southern System Reliability*
The CEC has recognized that there are infrastructure issues in Southern California, particularly in the southern zone that includes SoCalGas and SDG&E's service territory, that have the potential to create gas supply and reliability issues.²² The 2015 IEPR recognized that the area is "relatively isolated with limited interconnection to other gas receipt points in California and no storage facilities."²³ SoCalGas and SDG&E developed and put forth a comprehensive physical solution to improve gas supply and reliability, namely to construct the North-South Pipeline.²⁴ The California Public Utilities Commission (CPUC) subsequently rejected that proposal, however, despite acknowledging the need for "enhanced system reliability in the Southern System."²⁵ To date, SoCalGas and SDG&E are unaware of any alternatives underway and these constraints remain unaddressed. The final 2016 IEPR should acknowledge that this problem still exists with no solution in sight and as such, the natural gas system remains constrained.
- *Pipeline Safety & Reliability Project Application and CPUC Mandatory Directives on Line 1600*
The California Legislature and CPUC initiated proceedings and adopted regulations aimed at bringing natural gas pipelines into compliance with "modern standards of safety"²⁶ and directed all California natural gas pipeline operators to submit pipeline safety plans to "test or replace" all transmission pipelines that do not have documentation of pressure testing to modern standards. The CEC previously acknowledged these statutory mandates and policies to promote pipeline safety as a "top priority" of the state.²⁷

SoCalGas and SDG&E have made significant progress in testing and replacing transmission pipelines under our Pipeline Safety Enhancement Plan (PSEP).

In September 2015, SoCalGas and SDG&E filed an application with the CPUC for the "Pipeline Safety & Reliability Project", which would implement SoCalGas and SDG&E's PSEP for existing Line 1600, one of just two natural gas transmission lines that bring gas from the north into the San Diego region. The application remains pending before the CPUC.²⁸

In July 2016, the CPUC's Executive Director issued a series of "emergency mandates" to provide an additional safety margin for the general public and SDG&E workforce in connection with the operation of Line 1600.²⁹ As part of the mandatory directives, SoCalGas and SDG&E were ordered to reduce the operating pressure of Line 1600 by 20%, perform

²² 2015 IEPR at 149.

²³ 2015 IEPR at 149.

²⁴ 2015 IEPR at 149. Noting that the application was still pending at the CPUC.

²⁵ CPUC Decision 16-07-015 at 24-25.

²⁶ CPUC Decision 11-06-017 at 18; CPUC Rulemaking 11-02-019 and California Public Utilities Code § 958.

²⁷ 2015 IEPR at 146. "It is the policy of the state that the [CPUC] and each gas corporation place safety of the public and gas corporation employees as the top priority."

²⁸ The CEC previously discussed this project in 2015 IEPR at page 148, but did not acknowledge that an application had been filed.

²⁹ The CPUC Executive Director's directives were ratified by the CPUC Commissioners in Resolution No. SED-1 adopted August 18, 2016.

another round of inline inspections of Line 1600, perform leak surveys of Line 1600, and replace a segment of Line 1600. SoCalGas and SDG&E believe that the Commission's directives demonstrate the need to implement a long-term plan for Line 1600 without delay. As described in the Pipeline Safety & Reliability Project application, SoCalGas and SDG&E propose to construct a new pipeline and permanently lower the pressure of the Line 1600 to distribution service level. If approved, the proposed project will not only validate the margin of safety of Line 1600, as required under CPUC regulations and statutory law, it will also significantly improve the reliability and resiliency of the natural gas transmission system and provide additional operational flexibility to manage stress conditions caused by the variability of renewable energy resources. SoCalGas and SDG&E believe that investments in natural gas infrastructure that can accomplish multiple objectives simultaneously – *e.g.*, safety, reliability and energy grid flexibility – should be encouraged and prioritized in order to meet California's dynamic and evolving energy needs and climate policies consistent with the Draft 2016 IEPR Update.

Although SoCalGas and SDG&E anticipate that these constraints will be discussed as part of the 2017 IEPR process, the Draft 2016 IEPR Update should acknowledge these recent developments and, as a policy matter, promote expeditious resolution and implementation of strategic investments that advance multiple policy objectives such as safety, reliability, resilience and energy grid flexibility in a cost-effective manner.

SoCalGas and SDG&E strongly believe that a diverse energy portfolio that balances new technologies with natural gas is needed to meet California's energy needs and environmental policies in a cost-effective manner and enable climate change adaptation efforts to help protect the reliability of the energy grid. Natural gas infrastructure supports resiliency in the energy sector as a climate adaptation strategy and natural gas-fired generation is a flexible resource that has been, and will continue to be, instrumental in maintaining electric grid reliability, safety and security, especially as California continues to integrate an increased percentage of renewable electric energy and electrify the transportation sector. Additionally, SDG&E respectfully suggests that CEC work with all utilities to assess their capability to contribute to the forecasting process and then prioritize the projects on the list according to importance and capability.

SoCalGas and SDG&E appreciate the CEC's consideration of these comments in the 2016 IEPR and look forward to continuing to work on advancing California's energy policy goals and objectives.

Sincerely,

/s/ Tim Carmichael

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