March 24, 2016

Richard Corey
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Re: ARB's Draft Aliso Canyon Methane Leak Climate Impacts Mitigation Program

Dear Mr. Corey:

The Coalition For Renewable Natural Gas (RNG Coalition or RNGC) represents and provides public policy advocacy and education on behalf of the renewable natural gas industry (RNG, biomethane or upgraded biogas) in North America. Our membership includes each sector of the industry in the US and Canada as well as member companies from Brazil, Denmark and the UK. Together, our members produce 90% of the renewable natural gas in North America.

We continue to follow the development of the Air Resources Board (ARB) Draft Aliso Canyon Methane Leak Climate Impacts Mitigation Program and provide comments in response specifically to:

1) acknowledge the Southern California Gas Company's (SoCalGas) pledge to mitigate the environmental impacts of the methane leak from their Aliso Canyon natural gas storage facility,

2) express support for Governor Brown's proclamation[1] directing SoCalGas to fund an ARB program to "fully mitigate the methane emissions leak,"

3) express support for the ARB's Draft Methane Leak Climate Impacts Mitigation Program's primary focus[2] on "reducing methane emissions from the agricultural (including dairy) and waste (landfill and wastewater) sectors"

[1] Governor's Proclamation of a State of Emergency (Jan. 6, 2016), https://www.gov.ca.gov/news.php?id=19263.

[2] ARB Draft Aliso Canyon Methane Leak Climate Impacts Mitigation Program (Draft Program),

4) recommend ways that the final version of ARB's Aliso Canyon Methane Leak Climate Impacts Mitigation Program, funded by SoCalGas, could help reduce methane emissions from the agricultural and waste sectors.

ACKNOWLEDGE SOCALGAS' PLEDGE TO MITIGATE CLIMATE IMPACTS

The RNG Coalition acknowledges the pledge made by SoCalGas in a December 2015 letter to Governor Brown to mitigate the environmental impacts of the methane leak from their Aliso Canyon natural gas storage facility.

The climate impacts from the natural gas leak cannot be reversed, but they have been stopped – and further action can and should be taken as a result to mitigate future impact on the environment.

SoCalGas' leak and subsequent letter to Governor Brown were both predated by a commitment to join the Coalition for Renewable Natural Gas as an official member (November 2015). We believe this public demonstration was and is reflective of SoCalGas' desire to work with the RNG industry and to decarbonize their natural gas pipeline distribution system, including through increased pipeline access (injection) and transportation of biomethane developed from in-state resources.

SUPPORT GOVERNOR BROWN'S PROCLAMATION

The RNG Coalition supports the Governor's proclamation calling on the ARB to prepare a program, to be funded by SoCalGas, that will fully mitigate the methane emissions from the leak.

Full financial, technical and political support from the investor-owned natural gas pipeline utility companies is a key towards enabling nascent industries - like the renewable natural gas industry – to help the state of California achieve its greenhouse gas emissions reductions and related climate change objectives.

We believe the Draft Aliso Canyon Methane Leak Climate Impacts Mitigation Program prepared by the ARB appropriately responds to the Governor's Proclamation.

SUPPORT PRIMARY FOCUS OF ARB'S METHANE MITIGATION PROGRAM

The RNG Coalition supports the ARB's proposal that a Methane Climate Impacts Mitigation Program incorporate a portfolio of emission reduction projects that would focus primarily on "reducing methane emissions from the agriculture (including dairy) and waste (landfill and wastewater) sectors." We also strongly support the recommendation by ARB that SoCalGas support, financially or by other participation, in the "subsidization of purchases of low-emission or zero

emission vehicles to replace existing vehicle fleets, including diesel fleets (such as bus fleets)…" Diesel trucks and buses converted by repowered CNG engines or replaced with new engines to operate on CNG or LNG become candidates to be fueled with RNG, which is the lowest carbon intensity transportation fuel available. Expansion of the CNG and LNG vehicle market would be enormously supportive of the growth of the RNG industry in California. It would also expedite California's ability to meet its emission goals by removing diesel trucks and buses and replacing them with RNG-fueled vehicles.

We support the ARB's rationale in recognizing methane as the State's most prevalent Short-Lived Climate Pollutant (SLCP) and that the agricultural and waste sectors generate a substantial majority of the State's methane emissions.

RNG is primarily methane. ARB has already acknowledged that methane is at least 20x more potent than carbon as a greenhouse gas (GHG). In its draft of the proposed Mitigation Program, ARB states that the global warming potential of methane over a 20-year period is 84x more potent than CO_2. We support methane emissions reductions policies, including through regulatory implementation of statutory requirements to increasingly divert separated organics in municipal solid waste away from landfills. We also support legislative policy, regulatory incentives and other funding program opportunities that will enable the greatest reduction of methane emissions – the development of High Btu RNG projects that capture otherwise flared or fugitive methane emissions at the largest feedstock sources in California agricultural waste (including waste produced at dairies), landfills, wastewater treatment facilities).

With appropriate focus and responsible funding support by SoCalGas to offset the cost of upgrading biogas and interconnecting upgraded biogas (biomethane) to the natural gas pipelines, biomethane production facilities would be developed at many of these sources to capture, mitigate and avoid significant amounts of otherwise future methane emissions.

RECOMMENDATIONS TO REDUCE METHANE EMISSIONS FROM AGRICULTURAL AND WASTE SECTORS

The RNG Coalition supports the ARB's recommendation that funding and or other contributions from SoCalGas could also involves "sponsoring infrastructure such as pipeline interconnections and the upgrade and injection facilities necessary to make captured methane marketable under standards set by the California Public Utilities Commission."

The RNG Coalition could not agree more with the ARB's recognition of the need for the cost of compliance with the standards set by the California Public Utilities Commission (PUC) to be sponsored, off-set or otherwise subsidized. Financial support for these compliance costs could be avoided if the natural gas pipeline utility companies modified the minimum heating value requirement and maximum siloxane concentration standards in question to reasonable levels as requested

by the RNG industry.

We have categorized the regulatory costs associated with developing and interconnecting RNG projects in California to the natural gas pipelines into three categories: Pre-injection, Interconnection, and post-injection costs.

Pre-Injection Costs: In addition to the cost of developing a High Btu RNG production facility, the high cost of complying with increased testing and monitoring requirements place an added burden on the developer estimated at between $27,500 - $55,000 above what industry has experienced anywhere else in the country.

Interconnection Costs: These costs include permitting, labor and equipment necessary to connect the RNG production facility to the common carrier natural gas pipeline. Information obtained from the Investor Owned Utilities (IOUs) estimates interconnection costs in California at between $1.5 - $3 million per mile. If an RNG feedstock source is three miles from the nearest pipeline, baseline interconnection cost could reach $9 million. By contrast, pipeline interconnections for existing High Btu RNG projects outside of California range between $75,000 to $500,000 per mile.[3]

Additionally, RNG is required to achieve a minimum heating value (energy content measurement) of 990 btu/scfm in order to gain access to the common carrier pipeline in California. Because RNG lacks the higher chain hydrocarbons innate within other gasses (such as fossil natural gas or propane), high Btu RNG projects outside California are either required to meet a lower heating value standard (950-975 btu/scfm) or else obtain a waiver from the IOU. The estimated annual costs necessary to blend with propane in order to achieve pipeline access in California is between $330,000 - $660,000, not including applicable one-time Project Safety Management Permitting cost of approximately $150,000 and ongoing related annual compliance costs of nearly $30,000.

Of chief concern, particularly to prospective developers of High Btu RNG facilities at landfills, are the stringent siloxane standards set by the CPUC (AB 1900). It is important to note that all of the more than 55 RNG projects developed and operating outside the State of California, with one outlier, were not required to meet any siloxane standard as a condition for injection into a natural gas pipeline.

It is important to note that siloxane standards were not established for human health or safety reasons, but rather in consideration of the performance of certain end-use equipment, engines and appliances. The concern to developers is that if at any point RNG exceeds the maximum concentration limit allowable, the IOUs can exclude RNG from their pipeline – placing an RNG developer's entire revenue stream in a perpetual state of risk. Manufacturers of equipment responsible processing siloxanes out of RNG are unwilling to provide a performance guarantee that their equipment can meet the levels currently

[3] Opening Brief, filed by Coalition For Renewable Natural Gas on September 5, 2013, at 27.

required by the CPUC. Compounding the problem is the fact that the limit established by the CPUC is at near non-detectable levels. Because it is virtually impossible, with current laboratory technology, to consistently measure the siloxane content of RNG with predictability, investors and lenders are unwilling to provide the necessary capital required by developers to develop an RNG project.

Post-injection Costs: These costs include the equipment, odorants and requisite labor costs to comply with the continuous monitoring requirements imposed on RNG by the California Public Utilities Commission (CPUC). Assuming just one site-visit per month (a minimum 4-hour visit, at prevailing labor rates), we conservatively estimated these ongoing costs at $7,609.37 per month, or $91,312.44 per year. Post-injection costs also include additional reporting and recordkeeping requirements for which we do not have an estimate.

In aggregate, we conservatively estimate the one-time Pre-Injection, Interconnection and Post-Injection costs of regulatory compliance with the PUC's AB 1900 Decision (D.14-01-034) to be between $2,007,500 - $3,837,500 with ongoing annual costs thereafter of approximately $422,400. The cost of compliance with regulation remains a barrier to development of RNG projects – which means that methane from sources that could otherwise be developed into RNG projects will continue to be flared, or escape into the atmosphere as a fugitive emission.

Considering the technical and cost barriers that stand in the way of the RNG industry's ability to participate in the process of reducing methane emissions, we encourage the Draft Program to require SoCalGas to:

1) modify the minimum heating value requirement for biomethane from 990 btu/scf to 970 btu/scf or else pay for the cost of blending RNG with propane or natural gas that otherwise would be required to meet the 990 btu/scf natural gas pipeline injection standard now in effect

2) modify the maximum siloxane concentration standards for Trigger and Lower Action Levels as follows, so that RNG project developers can obtain the performance guarantees from their equipment manufacturers necessary to obtain financing for and develop RNG projects in California:

   Trigger Level: modify from 0.01 mg Si/m3 to 1.0 mg Si/m3

   Lower Action Level: modify from 0.1 mg Si/m3 to 2.5 mg Si/m3

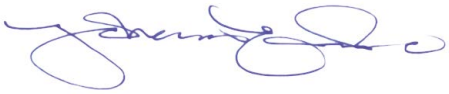
CONCLUSION

We acknowledge the incremental work that state agencies are collaborating on to overcome barriers to pipeline injection and appreciate the ARBs consideration of the aforementioned recommendations as part of a Final Aliso Canyon Methane Leak Climate Impacts Mitigation Program that focuses on a reduction of methane emissions from the agricultural (including dairy) and waste (landfill and

wastewater) sectors.

Likewise, the RNG Coalition will continue working with the IOUs, the ARB and state sister-agencies to encourage the advancement of clean energy sector technology in conjunction with the State's environmental objectives.

Sincerely,



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