BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewable Portfolio Standard Program.	R.11-05-005 Sec. 399.20 program (Filed July 21, 2011)

OPENING COMMENTS OF CLEAN ENERGY RENEWABLE FUELS, LLC

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Pursuant to *Administrative Law Judge's Ruling Requesting Comments on Implementation of New Portfolio Content Categories for the Renewables Portfolio Standard Program*, issued by Administrative Law Judge Anne E. Simon on July 12, 2011 ("ALJ's Ruling"), and in accordance with the California Public Utilities Commission's Rules of Practice and Procedure, Clean Energy Renewable Fuels, LLC ("Clean Energy") respectfully submits these Opening Comments.

I. INTRODUCTION.

Clean Energy's opening comments in this proceeding are limited exclusively to addressing Question Number 15 in the ALJ's Ruling, which may implicate the use of out-of-State renewable natural gas, or "biomethane", burned as fuel to generate electricity that satisfies the Renewables Portfolio Standard ("RPS") procurement requirements of California's load serving entities ("LSEs") and produces bundled renewable energy credits ("RECs").

Question 15 is stated as follows:

> "Should § 399.16(b)(2) be interpreted to refer only to energy generated outside the boundaries of a California balancing authority, or may it refer also to energy generated within the boundaries of a California balancing authority? Please provide relevant examples. Should this section be interpreted as applying only to transactions where the RPS-eligible generation is intermittent? Is the location of the generator within or outside of a California balancing authority area relevant to your response?"

Clean Energy's Response follows.

California Public Utilities (P.U.) Code § 399.16(b)(2) applies to generation of electricity by any eligible renewable energy generator that is a "renewable electrical generation facility" as defined in California Pubic Resources Code § 25741(a). The location of a renewable electrical generation facility may be relevant to whether the RPS-eligible power it generates qualifies, or the associated renewable energy credits qualify as firmed and shaped electricity products as contemplated by P.U. Code § 399.16(b)(2). By the same token, if an eligible renewable electrical generating facility is located within the boundaries of a California balancing authority, its generation very clearly qualifies under P.U. Code § 399.16(b)(1)(A). The electricity produced at an in-State RPS-eligible renewable electrical generating facility that burns biomethane that is produced out-of-State and delivered to the in-State facility by means of the interstate gas pipeline system clearly generates RECs that are considered "bundled" under P.U. Code § 399.16(b)(1)(A).

The reason that Clean Energy is reluctantly compelled to address the relationship between use of out-of state biomethane used as fuel by in-state renewable electrical generation facilities to produce bundled RECs and the facilities themselves is that the question has been inappropriately raised in the Commission's Long Term Procurement Proceeding,[1] If it is addressed by the Commission at all, it should most properly be addressed in this proceeding. The RPS statute, as amended by SB 2 (1x), makes no mention of the geographical source of eligible renewable fuel having any relationship at all to the location of where it is used to generate electricity or any associated RECs. Clean Energy simply cannot allow the possibility of any confusion between electricity itself and the fuel used to generate the electricity to stand.

II. THE SOURCE OF AN RPS-ELIGIBLE FUEL USED BY A RENEWABLE GENERATION FACILITY LOCATED WITHIN OR OUTSIDE OF A CALIFORNIA BALANCING AUTHORITY IS NOT RELEVANT TO THE CLASSIFICATION OF ANY ASSOCIATED RENEWABLE ENERGY CREDITS.

The California Energy Commission ("CEC")[2] and the Commission[3] have, for the past three years, sanctioned California load serving entity ("LSE") procurement of biomethane (pipeline quality renewable natural gas) from out-of -state producers, burn the biomethane at

[1] R.10-05-006.
[2] *See, California Energy Commission Renewables Portfolio Standard Eligibility Guidebook (Fourth Edition),* January 2011 ("Guidebook").
[3] S*ee,* e.g. *Resolution Number 4076*, issued May 24, 2007.

their in-state renewable generation facilities, and produce bundled (sometimes referred to as "Bucket Number 1") renewable power and associated RECs under P.U. Code §399.16(b)(1)(A). This allows purchasing LSEs to generate bundled RECs under the RPS program that they can use to meet their compliance requirements or trade to other parties. The CEC has published a Guidebook[4] that establishes the rules governing these transactions, has audited representative transactions, and has confirmed "Eligible Renewable Resource" status. The CEC requires that the biomethane producer must not only demonstrate a physical pathway on the interstate natural gas pipeline system for the transportation of the biomethane to the California market, but also requires the producer to submit contracts for physical transportation of the biomethane along the physical pathway. These rules are designed to ensure that the biomethane is injected into the natural gas resource pool that supplies California.

Physical delivery of any form of gas is accomplished through contracts. At the same time the natural gas in the pipeline system, which is entirely fungible, is not tracked with any specificity. The California market is primarily supplied with natural gas delivered from Texas, the Rockies and Canada. This gas arrives in California via the interstate natural gas pipeline system in varying quantities every day. Biomethane producers have the ability, at many of their projects, to contract to have their biomethane shipped by the interstate pipeline system that serves California's energy demands. The CEC and Commission have, quite reasonably, concluded that if a biomethane producer enters into an auditable contract with a California LSEs to buy the producer's biomethane delivered by means of the interstate pipeline system, the power that is subsequently generated in California properly qualifies for bundled, or Bucket No. 1, treatment under the RPS. The existing determinations and rulings by the CEC and the Commission have enabled biomethane producers to achieve a level of success over the past three years that is unprecedented in the history of the industry – since only in California do producers have a clear path to a market that will pay for the low-carbon, renewable attributes of their fuel.

[4] *See* ,P.U. Code § 399.25 *See also,* Guidebook Section II.B.2, p. 18.

III. THERE IS NO VALID LEGAL OR PUBLIC POLICY REASONS TO CHANGE THE SETTLED RULE THAT BIOMETHANE DELIVERED FROM OUTSIDE CALIFORNIA IS AN ELIGIBLE RENEWABLES RESOURCE.

A. TURN Has Raised Unfounded Concerns That Are Not Relevant and Should Not be Given Any Weight By the Commission if They Are Raised In This Proceeding.

In the Commission's Long Term Procurement Proceeding, TURN has expressed concerns about the use of out-of-state biomethane to generate in-state bundled, or Bucket No. 1, RECS under the RPS.[5] Regardless of the fact that out-of-State biomethane is a fuel – not electricity. It is proper both as a matter of statutory interpretation and as a matter of public policy to continue to allow California LSEs to procure out-of-state biomethane, burn that biomethane in their in-state renewable electricity generation facilities to generate renewable power, and produce bundled RECS.[6]

In its Reply Brief ,TURN asserted the position that the CPUC should limit purchases of RECs associated with out-of-state biomethane to "Bucket No. 3" (P.U. Code § 399.16(b)(3)), thereby making these purchases subject to the maximum percentage limits of P.U. Code § 399.16(c)(2). There is no statutory or policy basis for this proposed classification. P.U. Code §399.16(b)(1) provides that eligible renewable resource (such as out-of-state biomethane) that is used in a CEC-certified in-State generation facility is included in "Bucket No. 1" because the renewable electricity generation facility has its first point of interconnection with a California balancing authority. Again, there is no statutory justification whatsoever for classifying RECs associated with in-state renewable electricity generating facilities as unbundled.

TURN's position, if countenanced by the CPUC, would directly contradict detailed guidelines set forth in the Guidebook and interfere with the CEC's authority as set forth in SB2 (1x). Although the Commission and the CEC are responsible for implementing the new RPS statute, the CEC is specifically responsible for certifying eligible renewable resources.[7] Eligibility requirements are set forth in the Guidebook and nothing in SBX12 changes the CEC's existing responsibility to determine the eligibility of renewable resources for RPS compliance.

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[5] *See*, Opening Brief of the Utility Reform Network ("TURN") filed in R.10-05-006 with respect to PG&E's Renewable Procurement and Gas Supply Plan, filed June 17, 2011.

[6] The current prices for Bucket No. 3 RECS are generally insufficient to enable cost-effective transportation and sale of out-of-state biomethane into California.

[7] P.U. Code § 399.25.

TURN also unsuccessfully attempts to conflate the CEC's definition of "delivery" of out-of-State RPS generation[8] with the CEC's requirements for pipeline delivery of out-of-State biomethane. The terms should not be confused because the "delivery" requirements associated with out-of-State biomethane are intended to ensure that biomethane can be tracked from "source" to "sink." These requirements are intended to provide assurance that the CEC-certified generating facility is using biomethane to generate electricity that is counted for RPS compliance. Once these requirements are met, the in-state generation using out-of-state biomethane qualifies as in-State generation.

At present, there are biomass renewable electricity generation facilities that procure wood waste, for example, from Mexico and generate Bucket No.1 renewable power. Many developers are working on renewable natural gas or power projects that will rely on wood waste from the Pacific Northwest as a renewable feedstock for their projects. If out-of-state biomethane cannot be used to generate RPS Bucket No.1 power, then presumably *all* electricity generated from out-of-state biomass feedstock would have to be placed in "Bucket No.3" and treated the same as out-of-state electricity for purpose of consistency. That would be an absurd and counter-productive result that would substantially reduce investment in California-based renewable power generation and increase the cost of the RPS to California ratepayers.

B. There Are Numerous Compelling Public Policy Reason To Continue Use Of Biomethane To Fuel Eligible Renewable Resources.

1. Use of Out-Of-State Biomethane Improves Reliability of California's Energy Infrastructure.

An argument that has been advanced for changing the CEC's current guidelines on out-of-state biomethane is that the RPS, and the premium prices it stimulates for renewable energy, is intended to incentivize investment in and improvement of California's energy infrastructure. The use of out-of-state biomethane at existing in-state renewable electricity generation facilities would presumably be considered inconsistent with that goal.

The actual impact of the use of out-of-state biomethane as fuel for in-state renewable electricity generation facilities belies this presumption. The physical pathway requirement for the delivery of out-of-state biomethane to in-state facilities, the current structure approved by the CEC, ensures that the biomethane delivered is injected into the single natural gas resource pool

[8] Guidebook, pp. 36-40.

that serves all of California. California heavily depends on out-of-state natural gas production to meet its energy needs. Incentivizing the delivery of biomethane extends the life of the natural gas resource pool that California depends upon and reduces the environmental impact of California's burning of natural gas. The current structure put into place by the CEC and approved by the Commission has created real investment in the renewable energy infrastructure that California depends upon.

It is also critical to note that, due to long-standing prohibitions on the injection of landfill gas into California's natural gas system and difficulties obtaining interconnect agreement with California utilities, there are today no operating projects injecting biomethane into California's gas pipeline system. Practically speaking, the only biomethane available to California LSEs is produced out-of-state.

Biomethane is generally produced constantly and does not suffer the variability of wind and solar power. It can be used to shape and firm and solar and wind power supply, helping address one of the fundamental challenges of large-scale deployment of renewable power. It can also be stored at reasonable cost. In fact, there are developers in California that are planning to re-power mothballed gas-fired peaking power plants precisely to run them on biomethane and generate renewable electricity that can be used to offset variability of solar and wind power supply. Clearly, this is a major and significant investment in the California energy infrastructure that will lead to greater reliability and reduced dependence on fossil fuels. It is only possible if the CEC and the Commission's current positions on the use of out-of-state biomethane are maintained, and LSEs are allowed to generate Bucket No. 1 RECs by using biomethane at their in-state renewable electricity generation facilities.

2. Use of Out-Of-State Biomethane to Fuel In-State Renewable Electricity Generation Facilities Benefits California Ratepayers.

Out-of-state biomethane provides a source of renewable energy that can be used to meet LSEs RPS compliance obligations at a low relative price (as compared to other renewable resources available in commercial quantities) and with maximum flexibility, as it is fungible and can be stored at reasonable cost. Biomethane can be distributed to renewable electricity generation facilities without any significant new investment in transmission infrastructure as it can be transported in the existing natural gas pipeline system. This is of obvious benefit to California ratepayers that must pay increasingly high power prices (including paying for new

electricity transmission facilities) in order to obtain a higher percentage of renewable power. The available supply of out-of-state biomethane to fuel in-state generators promotes price competition and reduces costs to California ratepayers associated with the state's RPS program. The displacement of fossil fuel with a net zero emissions fuel also reduces greenhouse gas ("GHG") emissions associated with California's energy use. Obviously, GHG concentration and global climate change are global concerns and a reduction in emissions in one place is as of much value to California ratepayers as a reduction in any other.

3. Delivery and Use of Biomethane is Easily Audited and Verified.

Clean Energy, with its partner, Cambrian Energy,[9] presently owns and operates a biomethane production facility in Dallas, Texas that provides biomethane to a California local public utility for use in its natural gas-fired power plant today. The biomethane sales arrangement has been audited by the CEC. The volume of production of biomethane is easily confirmed by reference to the utility meter that measures the volume injected as well as the transportation contracts that move the biomethane from Texas to the California border. The contract for the purchase and sale of the biomethane calls for the transfer of the biomethane and all environmental attributes associated with the biomethane to the end user. There is no meaningful distinction between the ability of the CEC to verify and audit out-of-state biomethane deliveries and its ability to verify and audit deliveries of biomethane produced within the state. There is also no difference between the reliability of the verification methods for auditing out-of-state biomethane deliveries as compared to the means of verifying renewable power generation – fundamentally in all cases reference will be made to third party meters and production records.

4. Direct Use of Biomethane by Renewable Electricity Generation Facilities is Very Limited and Unlikely to Take Place on a Large Scale.

There are some who object to the current treatment of out-of-state biomethane under the California RPS due to the fact that, in reality, the natural gas-fired electricity generation facility that contracts for and buys biomethane from the pipeline is likely still burning molecules of conventional natural gas. Delivering biomethane directly to a renewable electricity generation

[9] See, letter of support from Cambrian Energy attached as Attachment A.

facility is impossible to achieve other than in the rare situation where the biomethane production source is co-located with the generation facility.

The reality of the natural gas production and distribution infrastructure in North America and the variability of supply and demand make it impossible to track natural gas movement at the molecular level. Therefore, once injected into the interstate pipeline system, it is impossible to verify where the biomethane molecules ultimately are burned. Of course, the natural gas commodity market has always been this way – and therefore contracts are established and volumes metered to ensure that producers that inject natural gas into the common resource pool only sell as much as they put in. Similarly, producers of biomethane can only sell the quantity of biomethane they put into the common resource pool, and their contract with the end user automatically transfers all environmental attributes of the biomethane. But there is no way for the producer or buyer to achieve actual transfer of the "green molecules" to any particular place on the grid. Biomethane and conventional natural gas are chemically indistinct and therefore entirely fungible on the natural gas pipeline system.

For the RPS program to be successful, it has to accommodate the reality of the multi-trillion dollar energy infrastructure that already exists in North America. One of the great advantages of biomethane is that is can be injected into a common resource pool through largely existing infrastructure – no new transmission lines or substations need be built for it to move to market. Opponents of the current treatment of biomethane under the RPS would like to turn this advantage on its head- and presumably would rather see there be no biomethane put into the grid at all (or consumed by California LSEs) if it cannot be transported at the molecular level to the renewable electricity generation facility – which is impossible to achieve.

Opponents of the current treatment of biomethane would evidently insist on this molecular level transportation despite the fact that actual transfer of the biomethane at the molecular level would do nothing to increase the environmental benefits of its production and use.

5. Out-Of-State Biomethane is Very Unlikely to Become the Predominant, or Even a Major, Source of Renewable Power in California.

There is reportedly as much as 7,000 MW of potential natural gas-fired power generation in California by renewable electricity generation facilities that can use biomethane to meet RPS requirements. The amount of biomethane that can be made available to California's LSEs pales

in significance to number of available generators that are fueled by natural gas. Over the next three to five years there may be as much as 50,000 MMbtus a day of additional biomethane produced outside of California that could be made available to California's LSEs. Assuming an average efficiency power plant (7,185 BTUs/kWh) this equates to an additional 289 MWS of potential capacity – barely 4% of the total projected available capacity of 7,000 MW.

The EPA maintains a database that can readily be used to assess the potential production of biomethane. The EPA's landfill methane outreach program ("LMOP") database lists 37 biomethane-fueled generators on 26 different landfills that have been developed since 1982.[10] Given the fact that the EPA also reports a total of 761 operational generators of all types, this represents a current penetration rate of roughly 5%.

The LMOP also maintains a potential project list that currently lists 515 "candidate" landfills that may be suitable for commercial production of biomethane. Of these landfills, only 165 candidates have more than 3 million tons in place and only 24 candidates have more than 10 million tons of waste in place. It is believed that 3 million tons is the absolute minimum volume of waste that must be in place to support a pipeline quality biomethane project. Of these landfills, only a small percentage will be located in areas with adequate rainfall, pipeline accessibility, a cost-effective physical pathway to California and low power prices (to prevent development as an on-site power project) to make them realistic candidates for production of biomethane in commercial quantities.

At most, 25 of the LMOP candidate sites will be developed as biomethane production projects over the next three to five years. If one assumes that these sites have an average daily production of 2,000 MMbtus then the total daily incremental volume is 50,000 MMbtus, or 289 MW of additional capacity. These figures assume that almost as many biomethane projects are completed in the next three to five years as have been completed in the prior thirty years of development of the most promising sites.

[10] It is true that there are biomethane sources beyond landfills that may, eventually, provide greater volume of biomethane. Like landfills, the preponderance of these projects are currently developed as on-site power projects. They also face substantial financial hurdles – as a rough rule of thumb it requires as much as 10x as much capital to produce 1 MMbtu in a digester-based project as in a landfill gas project. They are not going to be substantial sources of pipeline quality biomethane in the near future.

IV. CONCLUSION.

Regulatory uncertainty regarding the development of renewable energy under state RPS programs is one of the principle stumbling blocks for the continued development of the renewable energy industry. For this reason alone the CEC's and Commission's positions on out-of-state biomethane, which have been considered and are thoroughly addressed in the Guidebook, should not be changed. The biomethane industry is currently growing and improving its methods of production. Clean Energy's goal, as a company, is to drive the cost of production of biomethane below the price of conventional natural gas. Unfortunately, the low price of conventional natural gas today and the lack of meaningful incentives for the production or use of biomethane outside of California (at the Federal or state level) make it impossible to develop financially viable biomethane production projects ***unless the biomethane can be sold into the California RPS market.***

Respectfully submitted,

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ATTACHMENT "A"

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August 8, 2011

Commissioner Michael Peevy
California Public Utilities Commission
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Concurrence with Clean Energy Renewable Fuels Policy Arguments in Favor of Continuing to Allow California Load-Serving Entities to Procure Out-of-State Biomethane and Generate "Bucket No. 1" Renewable Power

Dear Commissioner Peevy:

Cambrian Energy Development LLC and its affiliated entities (collectively **"Cambrian Energy"**) are headquartered in Los Angeles, California and during the past 31 years have developed or co-developed 50 successful landfill gas-to-energy projects throughout the United States. Those projects include 18 projects in California. The projects were developed using a range of technologies, including 3 landfill gas-to-pipeline quality biomethane (i.e., renewable natural gas) projects.

I am writing to express the **strong concurrence** by Cambrian Energy in the policy arguments set forth by Clean Energy Renewable Fuels in favor of continuing to allow California load-serving entities to procure out-of-state biomethane and generate Bucket No. 1 renewable electric power through its use as a fuel.

Very truly yours,

Evan G. Williams

Evan G. Williams

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