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STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

In the matter of:

Developing Regulations and Guidelines for the 33 Percent Renewables Portfolio Standard

and

Implementation of Renewables Investment Plan Legislation

Docket No. 11-RPS-01

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COMMENTS OF SHELL ENERGY NORTH AMERICA (US), L.P. ON THE USE OF BIOMETHANE DELIVERED VIA PIPELINE FOR CALIFORNIA'S RENEWABLES PORTFOLIO STANDARD

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STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

In the matter of: Developing Regulations and Guidelines for the 33 Percent Renewables Portfolio Standard and Implementation of Renewables Investment Plan Legislation	Docket No. 11-RPS-01 Docket No. 02-REN-1038

COMMENTS OF SHELL ENERGY NORTH AMERICA (US), L.P. ON THE USE OF BIOMETHANE DELIVERED VIA PIPELINE FOR CALIFORNIA'S RENEWABLES PORTFOLIO STANDARD

Subject: RPS Proceeding

In accordance with the Notice issued by the California Energy Commission ("Commission") on August 16, 2011, Shell Energy North America (US), L.P. ("Shell Energy") submits its written comments on issues addressed at the September 20, 2011 workshop concerning biomethane delivered by pipeline under the State's renewables portfolio standard ("RPS") program. These written comments supplement the oral presentation made by Thomas Ingwers, Shell Energy's Vice President, Environmental Products, at the September 20 workshop. Shell Energy's written comments include responses to the questions presented in Attachments A and B.

I.

INTRODUCTION

Shell Energy is a wholesale marketing and trading company, as well as an Energy Service Provider ("ESP") in California. Shell Energy sells natural gas, power and environmental products, including wind, solar energy and biomethane, to wholesale and retail customers in the State. SBX1 2 has changed many of the requirements of the RPS program, but SBX1 2 does not modify the treatment of biomethane that is delivered to and used in RPS-eligible generation facilities. Shell Energy supports the Commission's existing "delivery" and "verification" requirements for biomethane delivered by pipeline. No changes are required in the RPS Eligibility Guidebook with respect to these requirements.

Through SBX1 2, California has adopted aggressive RPS procurement targets for load-serving entities ("LSE"). All renewable technologies recognized by SBX1 2 should be available to LSEs to meet their RPS procurement goals in a cost-effective manner. Biomethane is an attractive option as it can be transported and stored so that the resulting RPS-eligible generation can be dispatched during peak hours. There are barriers to in-State biogas development (Hayden Amendment; gas utilities' gas quality tariffs) that hopefully will be resolved in the next few years. In the meantime, out-of-State biomethane, of which there is a limited supply, can be utilized in conjunction with other in-State and out-of-State renewable resources to enable LSEs to meet their RPS procurement goals at the lowest possible cost to their retail customers.

SBX1 2 continues to define a "renewable electrical generation facility" as a facility that uses (among other technologies and fuels) biomass, digester gas, or landfill gas to produce electricity. See Pub. Res. Code Section 25741(a). This Commission, which is charged with determining RPS eligibility, has developed a comprehensive, workable certification process for

biomethane production facilities, as well as fuel delivery and verification requirements that ensure that the renewable attributes associated with biomethane are counted only once. The Air Resources Board ("ARB") is adopting a similar approach under its cap and trade regulation. No changes to the Commission's delivery and verification rules are necessary. Suppliers and users of biomethane are accountable for ensuring the eligibility of the biomethane upon which they rely.

As an active supplier of biomethane to California, and as an ESP operating under the RPS rules, Shell Energy appreciates the Commission's efforts to continually reexamine its regulations. In this instance, however, there is no reason to change the current rules. SBX1 2 does not alter the treatment of biomethane for RPS compliance. In view of the potential unintended consequences that could arise with respect to investment in biomethane facilities, and in view of the potential negative impacts upon existing contracts that were entered into under the existing rules, the Commission should not make unnecessary changes to the regulations.

II.

GENERAL COMMENTS

A. Statutory Construction: Impact of SBX1 2

Eligibility of biomethane-fueled electricity for RPS compliance is no different under SBX1 2 than it was under the previous RPS statute. Pub. Res. Code Section 25741(a)(1) provides that a "renewable electrical generation facility" includes a generation facility that uses biomass, digester gas, and landfill gas. A "renewable electrical generation facility" is an "eligible renewable energy resource" under P.U. Code Section 399.12(e) (subject to limitations not applicable here).

In its comments at the September 20 workshop, The Utility Reform Network ("TURN") asserted that the classification of biomethane-fueled renewable generation in a particular product

content category ("bucket") should depend on the origin of the biomethane burned in the RPS-eligible generation facility. This argument is not consistent with SBX1 2. Classification of biomethane-fueled electric generation in a "bucket" is based on the location of the electric generation facility, not the origin of the biomethane burned in the facility.

Out-of-State biomethane that is burned in a certified RPS-eligible in-State generation facility is included in "Bucket One" (in-State generation) because the electric generating facility has its first point of interconnection with a California balancing authority. See P.U. Code Section 399.16(b)(1). In-State solar and wind generation are not classified as "Bucket Three" products if the solar panels and wind turbines are produced out-of-State. By the same measure, there is no justification for treating in-State generation using out-of-State biomethane as a Bucket Three product.

As stated in P.U. Code Section 399.16(a), electricity products are "differentiated by their impacts on the operation of the grid in supplying electricity …." Whether the biomethane that is burned in an in-State generation facility originates in California or in some other state, the "impact on the operation of the grid" is the same. There is no statutory basis for classifying in-State generation using qualified out-of-State biomethane as a Bucket Three product.

B. There Should be No Limitation on the Origin of Biomethane Delivered by Pipeline

Biomethane delivered by pipeline is now, and will continue to be under SBX1 2, eligible for RPS compliance. Pipeline transportation to the California border -- or to an out-of-State RPS-eligible generation facility -- may be achieved by forward haul transportation, backhaul, and/or exchange. It is not necessary to track specific molecules from the biomethane production facility to California. Rather, the delivery of biomethane, like the delivery of all natural gas in North America, is facilitated by contract. The Commission should continue to verify biomethane delivery by requiring shippers to produce, upon request, the transactions (transportation and

storage agreements) by which the biogas is delivered from the "source" to the "sink." The Commission's verification procedures ensure that the environmental attribute of the biomethane fuel is used only once.

Transportation by displacement should not disqualify biomethane from RPS eligibility or limit its eligibility for RPS compliance. As explained during the workshop, the integrated nature of the North American gas transportation network provides that virtually all natural gas, including biomethane, is delivered by displacement at some point in time over the term of a long-term procurement contract. The key to achieving renewable resource diversity and GHG emissions reductions in California is not based on matching biomethane molecules between the biomethane production facility (e.g., out-of-State landfill) and an RPS-eligible generation facility. Rather, resource diversity and GHG emissions reductions are achieved by displacing natural gas with biomethane in the interstate transportation network. Biomethane is a valuable renewable resource for California regardless of where the biomethane is produced. Every molecule of biomethane introduced into the pipeline system displaces natural gas. Moreover, biomethane delivered by pipeline marshals the methane from a landfill or waste operation that otherwise would be released to the atmosphere.

Biomethane that is delivered to RPS-eligible generation facilities displaces natural gas in the pipeline system and does not require new transportation pipelines to do so. The resulting renewable generation does not require new electric transmission infrastructure. Biomethane also can be stored for use during peak demand periods. As a fully dispatchable resource, biomethane-fueled generation complements (by firming and shaping) the delivery of intermittent renewable resources such as wind and solar power. In view of the "integration" benefits associated with biomethane-fueled generation, the Commission should maintain its current delivery and

verification requirements to encourage the use of biomethane as a valuable resource for the State's RPS program.

C. Out-of-State Biomethane Represents a Limited Renewable Energy Resource for California

Contrary to the concern expressed by TURN at the September 20 workshop, there is no potential for out-of-State biomethane to "dominate" California's renewable market. Based on its experience in the market, Shell Energy has concluded that the maximum quantity of out-of-State biomethane that economically can be purchased for use in California RPS-eligible generation facilities over the next three-to-five years is approximately 50,000 MMBtu. Based on an average heat rate of 7200 Btu/cf, this available out-of-State biomethane translates to approximately 300 MW of capacity on a 24-hour, 7-day/week basis.

The 33 percent RPS procurement obligation for all LSEs and publicly-owned utilities ("POU") subject to the RPS obligation will require approximately 10,000 MW of renewable capacity by 2020. The maximum penetration of out-of-State biomethane in the California RPS market, therefore, is approximately three percent. Yet based on the unique ability to store biomethane and dispatch biomethane-fueled generation on a flexible basis, and based on the relatively attractive cost of biomethane-fueled RPS generation, biomethane -- including out-of-State biomethane -- is a critical component of the RPS portfolio.

D. Investment in Biomethane Production Requires a Stable Regulatory Environment

Presenters at the September 20 workshop stated repeatedly that a vibrant biomethane project investment and development program requires regulatory certainty and stability. Over the past decade, the Commission has established comprehensive "delivery" and "verification" requirements for biomethane delivered by pipeline. These requirements are reflected in the current (January 2011) edition of the RPS Eligibility Guidebook. Industry participants (project

developers; marketers; electric generators and LSEs) rely upon these requirements when entering into project development agreements, long term procurement contracts and RPS procurement contracts to meet their RPS compliance obligations. The terms of these contracts must be honored. The economic value of these contracts should not be undermined by changes in the applicable rules.

As noted above, SBX1 2 does not alter the terms and conditions under which in-State or out-of-State biomethane may be used for RPS compliance. Other changes that have been enacted with respect to RPS compliance do not affect the eligibility of biomethane (in-State or out-of-State) as a renewable fuel. Because SBX1 2 does not alter the treatment of biomethane in the RPS program, no reason exists for the Commission to modify the current delivery and verification requirements that apply to biomethane delivered by pipeline. The current requirements should be maintained.

Finally, if the Commission, in spite of the overwhelming opposition expressed at the September 20 workshop, modifies the current delivery and verification requirements for biomethane delivered by pipeline, the changes should not affect existing biomethane procurement contracts. Contracts entered into based on the current rules should continue to be eligible for RPS compliance and should be audited based on the Commission's existing delivery and verification requirements. In order to recognize the legitimate expectations of the parties that entered into these contracts, the existing rules should continue to apply to existing biomethane procurement and transportation contracts.

III.

RESPONSES TO SPECIFIC QUESTIONS

Shell Energy supports and is a signatory party to the comments submitted this date by the Coalition for Renewable Natural Gas. Shell Energy's further comments on the questions in Attachment A and B are as follows:

Attachment A: Pipeline Biomethane Discussion Points

Question 1:

> The fourth edition of the RPS guidebook requires biomethane to be delivered to California or the electricity generation facility if it is located outside of California before it can be used in the generation facility. Given the two separate pipeline systems in California is it appropriate to require:
>
> a. Delivery of biomethane to the gas pipeline system in California from which the facility accepts delivery of gas, or directly to the electricity generation facility if it is located outside of California, or
>
> b. Delivery of biomethane directly to the electricity generating facility.

Answer 1:

The Guidebook should not be revised. For biomethane delivered by pipeline to an in-State RPS-eligible generation facility, it is sufficient to require the applicant to enter into (or otherwise produce) contracts for the delivery of the biomethane from the injection point to the point at (or downstream of) the California border where the gas is delivered to the gas pipeline system in California (PG&E, SoCalGas or SDG&E) from which the eligible generation facility receives the gas. As long as the biomethane that is delivered to a California gas utility at or downstream of the California border is designated for use at a specific RPS-eligible power plant, no further (downstream) pipeline transportation contracts are necessary.

For biomethane delivered by pipeline to an out-of-State RPS-eligible generation facility, the current delivery and verification requirements should be maintained, as well. There is nothing in SBX1 2 that requires a change to these requirements.

Question 2:

> Should the Energy Commission consider adding any location requirements to sources allowed to provide biomethane to facilities participating in California's RPS in addition to any restrictions implied by required delivery agreements?

Answer 2:

No. There should be no additional restriction on the location of a biomethane production facility that participates in the RPS program. As long as the applicant can demonstrate that it has entered into contracts for the delivery of biomethane by pipeline from a natural gas pipeline system that is either within the WECC region or interconnected to a pipeline system that is located in the WECC region, the location of the biomethane source should not be limited. As discussed above, the volume of out-of-State biomethane available for delivery to the California market is relatively small. Notwithstanding the scarcity of supply, biomethane delivered by pipeline is used to displace conventional natural gas that otherwise would be burned in RPS-eligible gas-fired generators. Biomethane delivered by pipeline should be RPS-eligible without further restrictions on the location of the biomethane production facility.

Biomethane fueled-generation offers two significant advantages relative to other renewable generation located in California: First, biomethane-fueled generation is a non-intermittent, dispatchable renewable resource. Because biomethane can be stored, there is more certainty with respect to the timing and volume of fuel delivery to the gas-fired generator, as compared to wind or solar generation. The dispatchability of biomethane-fueled generation allows the LSE using biomethane to convert to renewable power when needed to serve load.

This use of biomethane meets the LSE's need for both dispatchable peaking power and RPS compliance. The use of biomethane-fueled generation also reduces the burden on the CAISO to integrate the resulting renewable power into the electric grid.

Second, the use of biomethane delivered by pipeline is cost effective as it allows LSE customers to extract additional value from existing capital investment in in-State gas-fired generation. The resulting renewable energy is less expensive and more reliable than other renewable generation alternatives.

Question 3:

> The Energy Commission currently allows backhaul and forward haul transportation agreements that are either firm or interruptible to be considered eligible delivery methods, should the Energy Commission:
>
> a. Retain the current requirements?
>
> b. Restrict delivery to only forward haul transportation?
>
> c. Restrict delivery to only firm transportation agreements?

Please provide reasoning for your response.

Answer 3:

The current requirements (which allow backhaul and forward haul transportation agreements) should be retained. The current requirements recognize that biomethane, like all other natural gas, moves in a commingled stream and often moves via backhaul (by displacement). The biomethane molecules are not delivered from the biomethane production facility to the RPS-eligible generating facility in a "segregated batch." As long as the applicant can provide the contracts for transportation and storage (firm or interruptible) and can account for the scheduling of transportation and storage, the biomethane should be allowed to move on a forward haul or backhaul basis.

Question 4:

Should any delay be allowed in the consumption of biomethane at the electric generating facility once it has been delivered to California or the electricity generating facility? If so, please specify what reasons for delays should be allowed and what, if any, limits should be imposed on the delay. Explain your answer. If no delay should be allowed, please explain why.

Answer 4:

Yes. One of the significant benefits of biomethane as an eligible renewable energy resource is its flexibility and the ability to inject biomethane from a pipeline into a storage facility for withdrawal during peak demand periods. This unique characteristic makes biomethane delivered by pipeline a "dispatchable" resource, unlike most other "intermittent" renewable resources. The use of biomethane-fueled generation eases the integration of other RPS energy into the electric grid.

A "delay" in the consumption of biomethane at an RPS-eligible generation facility can be accounted for through the disclosure of storage contracts and storage injection/withdrawal schedules. No limit should be placed on the duration of a "delay" between the delivery of biomethane (via transportation contract) from the biomethane production facility to storage, and the delivery of that biomethane from storage to the RPS-eligible generation facility. The injection and withdrawal of biomethane into and from storage can be accounted for and verified through the nomination and scheduling process on the interstate pipeline and/or local distribution utility system.

Question 5:

How should the Energy Commission treat biomethane imbalances resulting from differences between scheduling and use of the biomethane?

a. Specify why such imbalances could occur, and if they should be allowed. Please explain.

b. What limits are placed on imbalances by pipelines, and should the Energy Commission enforce stricter limits on imbalances? Please explain.

c. What is the magnitude of imbalances in natural gas deliveries, and how do imbalances in biomethane deliveries differ?

Answer 5:

Pipeline tariffs and gas utility tariffs address daily and monthly balancing between confirmed transportation receipts and transportation delivery, and between confirmed transportation deliveries and actual usage. If a shipper creates an "imbalance" by over- or underdelivering its gas supply relative to its scheduled daily delivery quantity, imbalance charges are imposed by the pipeline for excessive daily or monthly imbalances. These imbalance calculations are based on a shipper's aggregate confirmed transportation volumes, however. Imbalance calculations are not based on volumes from a particular source.

Current Commission reporting requirements account for the volume of biomethane delivered into a pipeline from the biomethane production facility, as well as the volume (net of fuel) delivered to the RPS-eligible generation facility. Based on the current reporting requirements, the Commission is able to verify that the volume of biomethane delivered into the pipeline matches the volume of biomethane consumed at the RPS-eligible generation facility. No further requirement is necessary to address "imbalances" between the biomethane that is "scheduled" and the biomethane that is "consumed." However, a shipper should be allowed to use other natural gas supplies, instead of biomethane, to account for fuel and in-kind shrinkage on the pipeline.

Question 6:

What records should an applicant for an electric generating facility using pipeline biomethane be required to maintain and provide to the Energy Commission in the event of an audit process. How will these records

ensure that the biomethane has not been claimed for use by more than one entity and all delivery and eligibility requirements have been met?

Answer 6:

The records that should be maintained by an applicant and provided to the Commission in the event of an audit include the following:

- Biomethane supply contract (with price and other sensitive commercial terms excluded);
- Invoices for biomethane supply and transportation (monthly transportation invoices are for aggregate natural gas flow and may include charges incurred for conventional natural gas in addition to biomethane);
- Daily pipeline schedules from the source to the sink;
- Schedules into and out of pipeline "parking" service, if applicable; and
- Schedules into and out of storage, if applicable.

These records, coupled with the warranties provided to the Commission in the attestations accompanying the certificate application for RPS eligibility, ensure that the biomethane delivered by pipeline (including the associated environmental attributes) may only be claimed and utilized once by the converting RPS-eligible generator.

Attachment B: Barriers to In-State Biomethane Injection Into a Natural Gas Pipeline

Barrier 1:

Biomethane quality standards and pipeline interconnection

- California utilities do not have uniform biomethane quality standards and the standards in place may not be appropriate for biomethane, most standards were designed for natural gas injection.
- Current utility tariffs require project developers to pay for the costs of the pipeline interconnection which is a large cost barrier.

Answer:

Uniform gas quality standards should be adopted for in-State biomethane delivered to the California gas utilities' systems. The gas quality specifications for in-State biomethane supplies may be more flexible than the gas quality standards for other natural gas supplies in order to encourage in-State biomethane production.

In addition, interconnection costs for biomethane projects delivering less than 50 MMBtu/day should be "rolled-in" to the gas utilities' rates. Rolled-in treatment would eliminate a significant barrier to the development and interconnection of in-State biomethane sources.

Barrier 2:

Biomass-to-biomethane conversion technologies

- The commercially available conversion technologies, such as anaerobic digestion, are generally limited to high moisture (non-woody) feedstocks.
- New technologies are in development, but have high capital costs and other economic, regulatory, and development barriers.

Answer:

No comment.

Barrier 3:

Statutory and regulatory issues

- Utility gas tariffs currently prohibit the injecting landfill gas into the natural gas pipeline in-state. However, utilities are not precluded from purchasing landfill gas from out-of-state sources that inject the gas into the interstate natural gas pipeline; other states allow landfill gas to be injected into their systems that deliver gas into the California system.

Answer:

The Hayden Amendment (Health & Safety Code Sections 25420-25422) should be repealed or amended to apply only to "Class I" landfills. However, even with the current restrictions under the Hayden Amendment -- and with the CPUC's current regulation limiting

landfill gas deliveries -- the State's gas utilities unjustly prohibit all in-State landfill gas from being delivered to the gas utilities' systems. At a minimum, the gas utilities' gas quality tariffs (SoCalGas Rule 30; PG&E Rule 21) should be amended to allow any biomethane that complies with the CPUC restrictions (imposed under the Hayden Amendment) to be introduced into the gas utilities' systems.

IV.

CONCLUSION

Modifications to the RPS Eligibility Guidebook are not required with respect to biomethane delivered by pipeline. Under SBX1 2, biomethane continues to be an eligible renewable fuel. Biomethane delivered by pipeline continues to qualify to be used in RPS-eligible generation facilities. The product content category ("bucket") for the produced energy is dependent on the location of the RPS-eligible generation, not the origin of the biomethane. No additional "delivery" requirements or "verification" requirements are necessary to confirm biomethane delivered by pipeline to an RPS-eligible generation facility.

Shell Energy appreciates the opportunity to submit these written comments.

Respectfully submitted,

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