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California Energy Commission
Dockets Office MS-4
Re: Docket No. 11-RPS-01 and Docket No. 02-REN-1038
RPS Proceeding 1516 Ninth Street
Sacramento, CA 95814-5512
and email docket@energy.state.ca.us

Re: Comments on Docket Number 02-REN-1038 and 11-RPS-01
Staff Workshop on the Use of Biomethane Delivered via the Natural Gas Pipeline System for California's Renewable Portfolio Standard ("Workshop")

Ladies and Gentlemen:

Thank you for the opportunity to comment on the above-referenced matter. I am writing solely on my own behalf as a California ratepayer, and not on behalf of any other person or entity. I am solely responsible for the opinions I express in this letter.

Attachments A and B to the Commission's Notice of the Workshop set forth a number of items in which "[t]he Renewables Committee is interested in stakeholder input … ." I provide below my own, personal, stakeholder input as a California ratepayer, interested in safe, affordable, and reliable renewable energy.

1. Fuel Production Location Requirements.

Attachment A asks:

> 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?

The answer to this question is "no," because (a) no such requirements are found in the statute, and (b) such requirements, if imposed, would be contrary to the intent of the RPS statute as set forth in the statute itself. I elaborate in Sections 1.a. and 1.b. of this letter, below.

The answer to this question is also "in any case, not yet," because the Commission does not yet appear to have analyzed (c) commerce clause or (d) FERC jurisdiction/filed rate doctrine issues in this context. I elaborate in Sections 1.c. and 1.d. of this letter, below.

I also discuss further aspects of this issue in Sections 4.b. and 4.c. of this letter, below.

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a. RPS Statute.

Public Resources Code 25741(a) defines "Renewable electric generation facility" as follows:

> (a) "Renewable electrical generation facility" means a facility that meets all of the following criteria:
>
> (1) The facility uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.
>
> (2) The facility satisfies one of the following requirements:
>
> (A) The facility is located in the state or near the border of the state with the first point of connection to the transmission network of a balancing authority area primarily located within the state. … . (emphasis supplied)

Notably, Public Resources Code §25741(a) (1) does NOT and has never contained the interspersed absent, deleted words inserted below:

> The facility uses biomass ~~made in California~~, solar thermal ~~using boilers made in California~~, photovoltaic ~~using photo cells manufactured in California converting California sunlight~~, wind ~~generated by wind turbines made in California and turned by California wind~~, geothermal, fuel cells using renewable fuels ~~and hydrogen made in California~~, small hydroelectric generation of 30 megawatts or less ~~powered by California water~~, digester gas ~~produced in California~~, municipal solid waste conversion, landfill gas ~~produced in California~~, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.

Yet, the thrust of a lot of conversation at the Workshop concerned starting, with biomethane, a process of reading the absent, deleted words into the statute.

The statute requires facility "use" of digester gas and landfill gas, and discusses "facility" location, but it does not require facility "use" of California-made-only digester gas or landfill gas, just as the statute allows the "use" of wind but does not require that wind "use" be only by turbines "made in California."

It sounded to me like a State Legislature staff member threatened the Commission that unless the Commission implements biomethane rules in the manner that he represented was the legislature's intent, stated by him to be to limit or eliminate the use of biomethane produced out of state, then the legislature will change the law so that the Commission will have to do so. If I heard this correctly, I think this would have been inappropriate for him to say, as disrespectful of the doctrine of separation of powers that is the foundation of this state's and this nation's constitutions. But I also think that a statement that the legislature will have to change the law in order to implement a supposed "intent" is proof that said "intent" is not in the statute.

b. Purposes of the RPS statute.

Public Utilities Code §399.16(b) has the new "product" categories and their limits on usage; it does not set forth any limit on "use" of biomethane by in-state generating facilities. Instead, the section refers back to Public Utilities Code §399.11, which sets forth the purposes of the RPS statute. Public Utilities Code §399.11(e)(b) provides:

> Achieving the renewables portfolio standard through the procurement of various electricity products from eligible renewable energy resources is intended to provide unique benefits to California, including all of the following, each of which independently justifies the program:
> (1) Displacing fossil fuel consumption within the state. ...
> (4) Meeting the state's climate change goals by reducing emissions of greenhouse gases associated with electrical generation. ...
> (6) Meeting the state's need for a diversified and balanced energy generation portfolio. (emphasis supplied).

Biomethane sourced from outside of California provides each of these independent justifications.

Biomethane displaces in-state fossil fuel consumption, which meets §399.11(e)(b)(1).

Biomethane reduces emissions of greenhouse gases associated with electrical generation. Despite statements by some stakeholders at the Workshop seeming to imply otherwise, Public Utilities Code §399.11(e)(b)(4) does not state that such GHG reductions must be in-state.

Biomethane supports the state's need for a diversified and balanced energy portfolio. I heard TURN's representative state at the Workshop that biomethane has "zero impact on grid operations in California." If I heard that correctly, I do not believe this is true. Intermittent resources such as wind and solar require support from baseload and peaking generating capacity. There may well be times and circumstances where in the aggregate there is less pollution from generation burning biomethane than there is from wind or solar generation supported by baseload-burning brown gas.

c. Commerce Clause Analysis.

A slippery slope of interstate commerce barriers has been proposed by introducing a "made in California" requirement to RPS-eligible fuels. Before starting to roll down it, I respectfully recommend an analysis of U.S. Constitution commerce clause issues introduced. To the extent there are rule proposals that impact biomethane that otherwise could have been imported from Canada or Mexico, I would also recommend review of North American Free Trade Agreement (NAFTA) and other free trade issues that might be so introduced.

d. FERC Jurisdiction/Filed Rate Doctrine Analysis.

Similarly, before requiring that biomethane be produced in California for it to be eligible to produce RPS-eligible energy, or otherwise promulgating rules that might bear on the interstate gas market, I respectfully recommend that the Commission analyze potential FERC jurisdictional and filed rate doctrine considerations.

2. Backhauls.

Attachment A asks:

> 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.

I was impressed by the presenter from Aspen Environmental Group. However, I disagree with the implication that since "most" transactions are forward hauls, this somehow gives rise to an argument that biomethane deliveries should be limited to forward hauls. As can be seen in a recent FERC pipeline backhaul rate tariff approval directive, *In re Rockies Express Pipeline LLC*, 135 FERC ¶ 61,253 (June 17, 2011),[1] there is nothing remotely subordinate or wrong about backhauls, in fact, FERC notes, backhaul services "provide prospective and current customers with additional transmission options and flexibility." (*Id.* at para. 13).

Backhauls are good for the interstate gas pipeline system and enhance efficient operation through providing counterflow that helps compression, so more gas can flow in the direction it needs to go. If backhauls are cheaper, that is a benefit for ratepayers. See, e.g., Platts, *Gas industry officials say backhaul shipping growing in Marcellus* (Jun 8, 2010)[2] and Platts, *Kinder Morgan eyes REX backhaul in light of Marcellus gas growth* (Aug 4, 2010).[3]

Gas transportation is pressure in a pipeline. Arguing that backhauls should be prohibited because they are not as common as forward hauls is tantamount to saying that because wind blows mostly from the south, wind turbines should not be permitted to face west.

Additionally, to the extent this bears on the Commission's analysis of this issue, I do not understand how Aspen's slide 5, which refers to a "Physical 'swap' technique," can actually occur without running afoul of shipper-must-have-title rules. Slide 5 is not clear as to whether "A" is a "market" or a "customer." It appears that "A" is in the north, something called "B" is in

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1 available at http://www.ferc.gov/EventCalendar/Files/20110617160004-RP11-2096-000a.pdf
2 available at http://www.platts.com/RSSFeedDetailedNews/RSSFeed/HeadlineNews/NaturalGas/6099311
3 available at http://www.platts.com/RSSFeedDetailedNews/RSSFeed/HeadlineNews/NaturalGas/6260213

the south, and B wants gas from the north but is only interconnected to the south. If this is the case, it cannot have or be sold gas from the north. For it to have northern gas, B either has to have title to the gas that is shipped to it from S or from A. The only way S can have A's gas, or S's gas from A, or gas from the north, is through a shipment on an interstate pipeline pursuant to which the entity that owns the gas is the shipper on the pipeline. See, e.g., *In re BP Energy Co.*, 121 FERC ¶ 61,088 (2007); *In re RRI Energy, Inc.*, 132 FERC ¶ 61,267 (2010);[4] In re Entergy New Orleans, Inc., 122 FERC ¶ 61,219 (2008);[5] and In re Calpine Energy Services, L.P., 119 FERC ¶ 61,125, (2007).[6]

I also believe that restricting transportation to firm transportation would unnecessarily tie up firm gas transportation, which is a limited resource on interstate pipelines, without any discernable benefit to the quality of the gas, proof of compliance, or otherwise.

3. Record Keeping Requirements.

Attachment A asks:

> 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. ...

Whatever the Commission decides, I respectfully recommend that the generating facility should not be required to maintain or obtain records that it cannot get, or that if it was not previously required to obtain, might not be subsequently available to it due to record retention rules binding on the supplier or bankruptcy of the supplier.

4. Other.

a. Additionality.

The California Air Resources Board (CARB) sets forth valid additionality requirements for biomethane in its cap and trade rules, e.g., proposed cap-and-trade regulation §95852.1.1: Eligibility Requirements for Biomass-Derived Fuels. Potential users of biomethane will naturally seek to comply with both the cap and trade and RPS programs. The state bodies that implement these two state legislative policies can work in tandem to further the goals of both.

b. Renewable Energy Should Not be Rendered Artificially Unaffordable.

Destroying the functionality of market mechanisms by (a) rule changes mid-stream, (b) frequent rule changes that cause potential market participants to believe there is no stable market

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4 available at http://www.ferc.gov/enforcement/civil-penalties/actions/132FERC61267.pdf

5 available at http://www.ferc.gov/eventcalendar/Files/20080311104002-IN08-4-000.pdf

6 available at http://www.ferc.gov/eventcalendar/Files/20070509122244-IN07-24-000.pdf

in which they can participate, and (c) limiting the highest and best use of assets that can be used in California based on where the assets are produced, prevents the use of market mechanisms to most efficiently price renewable energy. This increases the burden on ratepayers. It also artificially inflates the price and cost of renewable energy, creating the false impression that renewable energy is more expensive than it really is, and with that false price signal, inhibiting the more widespread adoption of renewable resource-based generation. Obscuring the actual low price of renewables is at odds with other RPS policies.[7]

c. Renewable Energy Policy Should Not Needlessly Sacrifice the Health Californians.

Although The Utility Reform Network (TURN) represents itself as a ratepayer advocacy group, TURN seems to be more concerned here about creating transmission construction worker jobs. These are not "green" jobs; they simply increase the cost of green resources to Californians. "Transmission construction jobs" is not specified as a goal in Public Utilities Code 399.11(b).

But more importantly, the policy objectives expressed by TURN and others at the Workshop to increase the construction of local transmission facilities rather than use cheaper and already available out of state fuel for in-state renewable resources not only needlessly increase the cost of renewable energy to ratepayers, they also put the health of Californians at risk, at no discernable benefit to ratepayers.

A number of studies have linked living near high-voltage transmission lines to childhood acute lymphocytic leukemia. Lowenthal, et al., *Residential Exposure to Electric Power Transmission Lines and Risk of Lymphoproliferative and Myeloproliferative Disorders,* Internal Medicine Journal 37: 614–619 (2007)[8] found that people who had lived within 300 meters of a power transmission line as children had a fivefold increase in risk of leukemia and lymphoma compared with those who had always lived more than 300 meters from a power line. Draper, et al. *Childhood cancer in relation to distance from high voltage power lines in England and Wales: a case-control study*, British Medical Journal 330:1290 (2005),[9] found that children who lived within 200 meters of a power transmission line from birth onward had a 70% elevation in risk of leukemia compared with those who lived more than 600 meters away, and those between 200 and 600 meters of a power line had a 23% elevation in risk of leukemia. Theriault & Li , *Risks of leukaemia among residents close to high voltage transmission electric lines*, Occupational and Environmental Medicine 1997;54:625-628[10] found an association between exposure to magnetic fields and leukemia among people who reside in the vicinity of high voltage transmission electric lines of 49 kV.

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7 See, e.g., stakeholders quoted in Weinstein, A Western Renewables Marketplace, Environmental Finance, Apr. 2004, p. 15, available at http://emissions.org/publications/member_articles/ef4ema15.pdf

8 available at http://www.ncbi.nlm.nih.gov/pubmed/17543004

9 available at http://www.bmj.com/content/330/7503/1290.full

10 available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1128834/pdf/oenvmed00093-0001.pdf

A connection between childhood leukemia and living near high-voltage transmission lines has been confirmed to varying extents by official federal and California government reports, although the medical community is not unanimous.[11] The NIEHS REPORT on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields Prepared in Response to the 1992 Energy Policy Act[12] says: "the epidemiological studies demonstrate, for some methods of measuring exposure, a fairly consistent pattern of a small, increased risk with increasing exposure that is somewhat weaker for chronic lymphocytic leukemia than for childhood leukemia." According to the EMF Research and Public Information Dissemination (EMFRAPID) Program through the United States Department of Energy and the National Institute of Environmental Health Sciences/National Institutes of Health report, *Assessment of Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields Working Group Report*,[13] "the overall pattern of results suggests a weak association between increasing exposure to EMFs and an increased risk of childhood leukemia." California Electric and Magnetic Fields Program, A project of the California Department of Health Services and the Public Health Institute, *Short Fact Sheet on EMF*[14] says: "Most but not all epidemiological studies show an association between leukemia … and an 'indirect' estimate of high magnetic field exposure such as living very near a type of powerline that could cause of high magnetic fields … these studies show that some estimates of magnetic field exposure might be related to cancer, but this does not necessarily mean that magnetic fields cause cancer."

I did not know about these studies when we moved into an area of south Walnut Creek close to twin 230kv lines in 1994, when my daughter Simone was 5 years old. In fact, I did not know about them until 2004, after Simone was diagnosed with acute lymphocytic leukemia, the very form of cancer linked by these studies to living near high voltage power lines. I am extremely happy to say that after her ordeal, which included a stroke caused by chemotherapy medication, Simone is fine[15] and thriving as an art major in her senior year at Whittier College.

However, I would not wish having a child go through leukemia on my worst enemy, if I had one. I recognize that there are societal trade-offs. Cancer risks suffered directly by

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[11] Kleinerman,, et al., *Are Children Living Near High-Voltage Power Lines at Increased Risk of Acute Lymphoblastic Leukemia?* American Journal of Epidemiology, Vol. 151, No. 5, 2000, Available at http://aje.oxfordjournals.org/content/151/5/512.full.pdf: "we found … no evidence that children living near high-voltage power lines are at increased risk of acute lymphoblastic leukemia." A detailed and readable explanation of a number of studies is Electric and Magnetic Fields Associated with the Use of Electric Power (June 2002): Questions & Answers prepared by the National Institute of Environmental Health Sciences National Institutes of Health available at http://www.niehs.nih.gov/health/assets/docs_p_z/results_of_emf_research_emf_questions_answers_booklet.pdf

[12] NIH Publication No. 99-4493, p. 9; available at http://www.niehs.nih.gov/health/assets/docs_f_o/health_effects_from_exposure_to_powerline_frequency_electric_and_magnetic_fields.pdf

[13] available at http://www.niehs.nih.gov/health/topics/agents/emf/

[14] p.2, available at http://www.ehib.org/emf/shortfactsheet.PDF

[15] Szabo, *Kids with Cancer Bond On-Line*, USA Today, April 10, 2006, available at http://www.usatoday.com/tech/news/techinnovations/2006-04-10-teen-cancer-web_x.htm; Rabin, *In Cancer Fight, Teenagers Don't Fit In*, New York Times, March 15, 2010, available at http://www.nytimes.com/2010/03/16/health/16canc.html?pagewanted=print; Simone Weinstein, *My Friend Has Cancer: A Pamphlet for Teens*, available at http://jweinsteinlaw.com/My_Friend_has_Cancer.pdf.

individuals are abundant as a cost of creating goods and services that benefit society as a whole. But I hope I can convince the Commission that it should not take any steps that could increase the incidence of individual child leukemia patients when there is no actual benefit to society.

Creating a few transmission construction jobs that are otherwise unnecessary by erecting artificial barriers to existing renewable resources, which barriers are not required by the statute, is not a societal benefit; it is rather a very expensive and inefficient transfer payment to some construction workers for a year or two, with a follow-on generations-long negative risk of increased childhood leukemia that would fall disproportionately on some families. Rather than weighing the need for more renewable resources against environmental impact, since the resources are already available but for proposed artificial limits on existing resources so new ones can be built in California to create transmission construction worker jobs, we can instead simply weigh make-work legislation against environmental impact.

How much added danger and risk should individual members of society tolerate for "make work" jobs? Tearing up and refilling paved roads has been a not-atypical use of federal stimulus funds in recent years. Were we to prohibit self-service at gasoline stations, it is primarily the workers who "chose" to take the jobs pumping gas who would have more exposure to carcinogens. But we should not have workers dig potholes in functioning roads in order to increase work for pothole fillers, because it is wasteful and some families driving on the road will disproportionately bear the costs of injury directly arising from this wastefulness.

I think if ratepayers were fully informed and given the choice between paying extra money on their electricity bills to create construction jobs to build assets that are only made necessary by artificially restricting the use of available out of state renewable resources, and that increase the risk of childhood leukemia, even if the epidemiological risk is not yet fully settled, or of obtaining the RPS benefit- renewable energy- from out of state without having to pay that extra money on their electricity bills, most ratepayers would choose the latter.

The TURN representative seemed to hint that liquefied biomethane imported into the state and directly connected with the generator might meet whatever criteria TURN is seeking to add to the RPS statute. This is another example of an awful lot of expense and danger added needlessly to a product that can be reliably and safely imported into California through the interstate pipelines. Demonstrably ill health effects of a state law or regulation tending to restrict interstate commerce should also be considered in any commerce clause analysis.

d. Green Attributes.

One subject that I had thought the Workshop would cover, is page 18, bottom paragraph, of the 4th ed. of the Renewables Portfolio Standard Eligibility Commission Guidebook the last sentence of the CPUC's definition Green Attributes. That sentence reads:

> If the Project is a biomass or biogas facility and Seller receives any tradable Green Attributes based on the greenhouse gas reduction benefits or other emission offsets attributed to its fuel usage, it shall provide Buyer with sufficient Green Attributes to

ensure that there are zero net emissions associated with the production of electricity from the Project.

Decision 08-08-028 August 21, 2008, Decision on Definition and Attributes of Renewable Energy Credits for Compliance with the California Renewables Portfolio Standard, p. B-2.

It would be nice to have regulatory certainty respecting what such Green Attributes are. For example, page 175 of second 15 day rule ARB package on the cap and trade regulations under AB32,[16] refers to Table C-1 of EPA greenhouse gas reporting regulations,[17] which sets forth a factor of 53.02 at Table C-1 to Subpart C of Part 98, 74 FR 56409 (2009) on page 37 of the pdf file. So, perhaps a rule could be that if a facility is obtaining Climate Reserve Tonnes (CRTs) on the Climate Action Reserve (CAR) for methane capture, a facility that also wants to sell green gas for California combustion into eligible renewable energy would have to provide 1 CAR CRT for every 1000/53.02 or 18.86 mmBTU combusted. For a plant with a 7.5 heat rate, that would mean 3000 mmBTU combusted by the plant would generate 400 MWhrs, and would require 159(.07) CRTs to ensure zero net emissions (if and only if there are CAR CRTs being produced, and if my math is remotely right). Perhaps this could be a discussion item at a future Commission workshop.

Thank you for the opportunity to comment.

Yours truly,

Jeremy D. Weinstein

cc: Ms. Katherine Zocchetti
Gabe Herrera, Esq.
Mr. Mark Koostra

16 available at http://www.arb.ca.gov/regact/2010/capandtrade10/2ndmodreg.pdf
17 available at http://www.epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf