

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Order Instituting Rulemaking to Adopt Biomethane
Standards and Requirements, Pipeline Open Access
Rules, and Related Enforcement Provisions

Rulemaking 13-02-008
(Filed February 13, 2013)

**REPLY COMMENTS OF AQUAHDREX, INC.
ON ASSIGNED COMMISSIONER'S RULING SEEKING COMMENT ON
STAFF PROPOSAL ON RENEWABLE METHANE DEFINITION, JOINT
UTILITY INTERCONNECTION TARIFF, AND CALIFORNIA COUNCIL ON
SCIENCE AND TECHNOLOGY UPDATED STATE OF SCIENCE REGARDING
MAXIMUM PERMISSIBLE SILOXANE CONCENTRATION**

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), AquaHydrex, Inc. (“AquaHydrex”) hereby submits these reply comments on the *Assigned Commissioner’s Ruling Seeking Comment on Staff Proposal on Renewable Methane Definition, Joint Utility Interconnection Tariff, And California Council on Science And Technology Updated State of Science Regarding Maximum Permissible Siloxane Concentration* issued by Assigned Commissioner Clifford Rechtschaffen, on November 19, 2018 (“Ruling”).

I. INTRODUCTION.

AquaHydrex submits these reply comments in response to the Opening Comments filed by parties that are limited exclusively to the “Staff Proposal on Renewable Methane Definition” (“Staff Proposal”). As emphasized by numerous parties, Senate Bill 100 established the “100 Percent Clean Energy Act of 2017,” which increased the renewables portfolio standard (“RPS”) requirement from 50 % to 60 % by 2030 and established California’s bold new policy of planning to meet all of the state's retail electricity supply with a mix of RPS-eligible and zero-carbon

resources for a total of 100 % “clean energy” by December 31, 2045.¹ By enactment of SB 1369 in the same legislative session, hydrogen is now well on its way to becoming considered a cost-effective clean energy storage carrier, enabling California to tap into the state’s electric system to convert, store and re-deploy electricity through a variety of carriers, including on-site storage, blending into existing gas carrier pipelines and through current vehicle distribution channels. Eventually, electrolytic hydrogen as a subcategory of renewable methane can be an important source of long-term and season electric storage, electric system balancing, a zero carbon resource for spinning reserves, baseload and other critical generation system assets, while also providing opportunities to improve air quality.²

Some of the terms used in SB 100 (including “zero-carbon”) will require more definition to be provided by the Commission and other California agencies, but one term – expressly defined in SB 1369 – “green electrolytic hydrogen” should be taken up by the Commission in this proceeding at this time.³

II. THE DEFINITION OF RENEWABLE METHANE ADOPTED BY THE COMMISSION SHOULD BE CONSISTENT WITH SB 100 POLICY ON GREENHOUSE GAS EMISSION REDUCTION AND THE DEFINITION OF ELECTROLYTIC HYDROGEN IN SB 1369.

AquaHydrex proffered a definition consistent with both SB 100 and SB 1369 in its Opening

¹ Senate Bill No.100, *California Renewable Portfolio Standard Program: Emissions of Greenhouse Gases*, Chapter 312. Approved by Governor and filed with Secretary of State September 10, 2018.

² Senate Bill 1369, *An Act to Amend Section 400 of, and to add Sections 400.2 and 400.3 to the Public Utilities Code*, relating to energy, Chapter 567. Approved by Governor and filed with Secretary of State September 19, 2018.

³ SEC. 2. Section 400.2 is added to the Public Utilities Code, to read:

400.2. For the purposes of this article, “green electrolytic hydrogen” means hydrogen gas produced through electrolysis and does not include hydrogen gas manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock. SEC. 3. Section 400.3 is added to the Public Utilities Code, to read: 400.3. The commission, State Air Resources Board, and Energy Commission shall consider green electrolytic hydrogen an eligible form of energy storage, and shall consider other potential uses of green electrolytic hydrogen.

Comments, but also noted that the electrolytic hydrogen scenarios discussed there at a high level were illustrative of the complexity of pursuing deeper decarbonization by connecting the electric and gas sectors. The current regulatory silos which are in place for each energy sector and market create barriers for rapid and broad zero carbon resource development.

The potential carbon reduction benefits for the electric, gas, industrial and fuels from a renewable methane category which includes electrolytic or “green” hydrogen are significant and compelling. There is no specific protocol currently to track all the energy system and climate benefits of a renewable methane/green hydrogen offering for the variety of end uses; there are some limited protocols to account for eligible renewable electricity for RPS compliance through RECs and carbon intensity limits for imported electricity through e-tags. However, there needs to be more work to track, facilitate and value the benefits for both carbon emission reductions from green hydrogen, and electric system benefits from green hydrogen. Creating this market recognition and value will enable deeper decarbonization for zero carbon fuels for electricity production and storage, zero carbon fuels for ZEV transportation, zero carbon fuels for space and water heating, and zero emission gases for industrial processes, like refining and fertilizer production.

California is home to the second largest hydrogen market in the United States, outside of Texas. California has one the most aggressive decarbonization goals for its electric systems. With these new 2018 goals and policies now in place, it is timely to link the renewable methane/green hydrogen and electric markets, to leverage the success achieved in electricity sector decarbonization for the benefit of the fuels and gas sector, driving broader electrification and

deeper decarbonization of gas, fuel, chemical and industrial sectors. California is well positioned internationally to be a leader in this cross sectoral area for climate reductions measures.⁴

Other parties agree. As just one noteworthy example, the National Fuel Cell Research Center pointed out in its Opening Comments that:

“There are renewable resources not currently eligible for the RPS that the Commission may want to include in the Proposed Definition, such as curtailed renewables and green electrolytic hydrogen (in the recently enacted Senate Bill 1369₃). Inputs in the Proposed Definition should not be limited to dedicated RPS resources. SB100 calls for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and net zero carbon resources by December 31, 2045. The definition of renewable methane should enable California to achieve this overriding target. Therefore, all net zero carbon resources should be accounted for in the Proposed Definition.” (NFCR Comments, pp. 5-6).⁵

III. THE DEFINITION OF RENEWABLE METHANE ADOPTED BY THE COMMISSION SHOULD BE CONSISTENT WITH THE MANNER IN WHICH THE TERM ELECTROLYTIC HYDROGEN IS USED IN OTHER FORESEEABLE CONTEXTS BEYOND THIS PROCEEDING.

There are increased investments in new technologies to capture the benefit of the transforming electric system and abundant zero carbon electric supply. The future is bright. In addition to assuring that any definition adopted by the Commission in this proceeding will expedite – rather than confuse or impede – development of renewable hydrogen, AquaHydrex emphatically supports the Opening Comments of Pacific Gas and Electric Company (“PG&E) as they relate specifically to green hydrogen:

⁴ See, *Governor’s Signing Message*, “SB 100 sends a clear signal to markets to expand clean energy generation. The next step is to integrate these goals into our existing clean energy efforts, including the Integrated Resource Planning process, which will ensure that Californians continue to have safe, reliable, and affordable electricity. To get to 100 percent clean energy in a manner that ensures reliability and reduces cost, we must use a variety of strategies. Energy storage, increased efficiency and adjusting energy use to the time of day when we have the most power will all help with the transition.”

⁵ *Comments of the National Fuel Cell Research Center*, filed December 7, 2018 (pp. 5-6).

“PG&E appreciates the opportunity to provide comments on the Staff Proposal, and recommends that if the Commission determines it is critical to define renewable methane at this time, that it does so very broadly to avoid unintended consequences and with sufficient flexibility to encapsulate existing and emerging technologies. It is in the interest of all parties to have a broad definition that incorporates the existing processes of today, but also enables the development of new processes in the future in this emerging industry.” (PG&E Opening Comments, p. 5).⁶

IV. CONCLUSION.

AquaHydrex appreciates the opportunity to submit these reply comments on the Ruling and the Staff Proposal and looks forward to working with the Commission and stakeholders on all aspects of this proceeding going forward.

Respectfully submitted,



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⁶ Opening Comments of PG&E, filed December 7, 2018 (p. 5).