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California Energy Commission
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Re: Docket No. 10-BAP-01

Docket Office:

Please find attached PG&E's comments on Draft 2010 Bioenergy Action Plan workshop, held December 14, 2010. Please contact me should you have any questions.

Sincerely,

Dan Patry

Attachment

PACIFIC GAS AND ELECTRIC COMPANY COMMENTS IN RESPONSE TO THE DRAFT 2011 BIOENERGY PLAN
DOCKET NO. 10-BAP-01

I. Introduction

On December 14, the California Energy Commission ("CEC") held a staff workshop to solicit comments on the Draft 2011 Bioenergy Action Plan ("2011 Plan"). At the workshop, CEC staff and members of the Joint Agency Bioenergy Interagency Working Group presented the 2011 Plan outlining various challenges to the development of biopower and biofuels in California. Pacific Gas and Electric Company ("PG&E") attended the workshop and welcomes the opportunity to offer the following comments and observations on the draft 2011 Plan.

PG&E's comments will address both the biopower and biogas components of the 2011 Plan in turn.

II. Electricity

PG&E Supports Efforts to Increase Fuel Supplies in California

The total biopower that can be met with in-state resources depends on the amount of feed stock that is economically, rather than technically, available. The report cites CBEA estimates of 36 MMBDT/Yr of potentially available biomass feedstock, or enough to meet about 85% of all of California's 2010 renewable needs[1] (pg 2). Yet, the current economic potential is closer to 7 MMBDT/Yr based on 6,400 GWh total output (pg 10). Increasing mandates for biomass without corresponding increases in fuel feed stocks guarantees higher costs for customers and adversely impacts the long term viability of the industry. To this end, PG&E suggests including estimates based upon economic rather than technical potential and basing the estimates upon publicly available data generated through California Department of Forestry and Fire Protection.

Fuel supplies can be increased by increasing harvests from state and federal forestry operations. PG&E supports the recommendation for a modified Timber Harvest Plan for fuel reduction activities. Additionally, public policy efforts that increase the amount of fuel available, such as reductions in open burning or elimination of diversion credits for biomass, could be explored.

The Biomass Market is Active but Economically Challenged

The report states on page 2 that 130 MW of bioenergy was added between 2006 and 2009 but 60 MW was forced to shut down. It would be helpful if a table was provided showing the new facilities and the facilities shutting down.

California is a national leader in biomass energy production with perhaps the densest population of existing power facilities. In the last few years, three facilities representing approximately 35 MW have restarted (El Nido, Chowchilla, and Blue Lakes). In addition, PG&E has executed agreements to convert instate petroleum coke facilities representing approximately 150 MW of additional generation to biomass fuels. One facility, SPI Lincoln, expanded. An additional plant is planned for SPI Anderson. PG&E recently sought approval for the restart of a mothballed facility in Anderson, Kiara Solar. Some

[1] Estimating 1.2 BDT/MWh equates to 30,000 GWh or about 85% of the 36,000 GWh 2010 goal on Pg. 2.

facilities, concerned about increased competition for fuel feedstocks, have reduced output in accordance with flexibility inherent in their PPAs.

The report states that projects receive capacity payments of $30 - $60/MWh for deliveries during summer peak periods (Pg. 37) but does not mention that capacity is paid year around. As a clarification, PG&E suggests presenting a price, expressed in $/MWh representing the annual capacity payments. These values vary between $24/MWh and $30/MWh and represent a total all-in price well above the current MPR.

Repowering and expansion of existing biomass plants is cited as a potential option by the industry. However, in PG&E's experience we have yet to receive any substantive proposals in this space.

On-site Generation Should Be Counted Towards the Goals
The CEC has long recognized the value of on-site generation and the likelihood of a tradable market for Renewable Energy Credits (RECs). Ignoring generation created on-site mischaracterizes the state's progress towards the state's goals. Including on-site generation raises the contribution from 5,800 to 6,400 or just under 20% of the state's goals. Ignoring on-site use simply means that customers will continue to pay for additional biomass capability than is necessary. At the very least, the report should footnote revised numbers showing on-site use.

Co-firing Offers Significant Opportunity
California imports 52,000 GWh of coal-fired generation. Co-firing 10% with biomass would almost double progress towards the state's goals with little or no capital investment. To accomplish this would require that the CEC recognize, either as a result of legislation or Commission clarification, that conversion or new use of an alternative fuel source outside of California count towards renewable energy, regardless of plant age. This would also meet the objectives of expanding the use of biomass and increasing output from existing capacity. The environmental impacts of offsetting GHG emissions associated with coal should be further explored by the CEC.

Siting, Permitting and Policy Challenges
The challenges faced by biomass developers, as outlined on page 25 of the report, are similar to the challenges faced by any project developer. In addition, developers address uncertainty through avenues such as limitations on pre-performance damages. Arguably, biomass with its state mandate could have an advantage over other RPS developments.

Statutory and Regulatory Issues
On page 37, the report states that "Failure to accurately predict how the MPR will evolve limits the ability of project developers to accurately determine their rate of return on a future project." The only purpose of the MPR is to determine whether or not the price of a PPA that is obtained through a solicitation is per se reasonable. The MPR is not important for determining the economics of a project.

The statement, "In addition, wind and solar receive higher federal tax incentives than biomass technologies" on page 41 ignores the much higher capacity factors associated with biomass plants. While the incentive may be lower on a $/kWh basis, the total amount may be greater. In addition, wind and solar facilities have not historically received production tax credits for existing plants. Tax grants and loan guarantees are

not technology specific. The existing Renewable Facility Program, as written, encourages lower energy payments, not higher, to biomass plants.

III. Gas

General Comments

PG&E supports the development of the renewable biomethane industry whether the end-use of the biomethane is for power generation, pipeline injection, or other uses such as liquid fuels and compression. As the CEC, the California Public Utilities Commission ("CPUC"), and all other state agencies of the Working Group are well-aware, PG&E has for years been at the forefront of the biomethane-to-pipeline injection market development in California.

However, being at the forefront of the effort to promote biomethane-to-pipeline injection in California does not mean that PG&E supports utility acceptance of biomethane from all-source feedstocks into its gas pipeline system. The sole charter of any gas utility is to reliably transport and deliver merchantable natural gas of known and consistent quality that will neither be unhealthy for customer use nor injurious to utility facilities and customer equipment.

Gas Quality

Complex forms of renewable natural gas (RNG) feedstocks, such as landfill gas (LFG)[2], wastewater, and co-digested mixtures of feedstocks provide minimal to no source certainty of gas quality and feedstock control. PG&E is particularly concerned with LFG, which contains a myriad of constituents of concern that are potentially harmful to our customers' health and pipeline integrity. In order to have natural gas of consistent quality, certainty of the source feedstock of the gas must be guaranteed. The potential for customer health impacts and long-term pipeline integrity issues resulting from RNG produced from projects employing complex variable feedstocks is substantial.

Gas quality issues arising from inconsistent feedstock control is a matter of serious concern to PG&E. Any degradation of pipeline integrity due to internal corrosion would occur over time, and may take years before any problems become apparent. Maintaining consistent and known gas quality will minimize the likelihood of internal corrosion in gas pipelines. It is not advisable to introduce new complexity into the current pipeline integrity review mix.

Gas Quality Testing

To address the uncertainty surrounding any RNG feedstock or mix of feedstocks, an extensive battery of research and physical testing will necessarily be performed prior to making any determination that a particular feedstock is acceptable for injection into utility pipelines. Every RNG project will likely use a wide array of potential feedstocks each of which must be identified in advance and thoroughly tested, as well as any mixture of such feedstocks for co-digestion. The amount of testing required increases with the complexity of the feedstock.

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[2] It is still undetermined whether the State of California will ultimately consider landfill gas to be classified as a type of renewable gas.

Implementing a biomethane gas quality testing and project management program will require the establishment of a renewable gas program at PG&E that must be funded either by customers outside of recently approved rate cases or funded by industry.

Funding the required initial feedstock research and ensuring the gas quality of RNG projects on an ongoing basis is not inexpensive. PG&E's experience with testing the gas quality and managing the implementation of our first dairy biomethane-to-pipeline injection project showed us that costs associated with RNG projects are quite high. Although the dairy was able to produce pipeline quality biomethane satisfactory to meet tariff requirements, ongoing utility assurance of gas quality from even that most simple of RNG feedstocks was costly in terms of quality testing and personnel resources.

Landfill Gas, Wastewater Gas, and Gas From Co-Digested Feedstocks

PG&E is particularly concerned with acceptance of LFG into its pipelines. The variable nature of the source feedstock of LFG, which offers no source consistency, cannot be ignored. The quality of LFG will change landfill by landfill, and also within each landfill as gas is pulled from different sections of the landfill.

In the 1980s, PG&E and the State of California learned together about the potential impact of LFG on customer health and pipeline integrity, as risks associated with accepting LFG into utility pipelines. Out of concern for public health and safety, Hayden's Law[3] was enacted in 1988 to prohibit a gas corporation from knowingly and intentionally exposing any person to gas that contains a chemical known to cause cancer or reproductive toxicity without first warning the person. Hayden's Law was thus implemented to protect the public from any potentially harmful gas used in utility customers' homes.

PG&E believes that Hayden's Law must remain in effect to prevent LFG and its multitude of unknown and dangerous constituents of concern from harming our customers' health and causing pipeline integrity issues.

If PG&E is ultimately forced to accept LFG into gas pipeline systems against its better professional judgment, PG&E believes that the spirit of Hayden's Law should be maintained, and that customers at risk of receiving LFG into their homes should be warned of the risk well in advance of LFG project permitting. Such projects should be subject to a public notice and comment process made available to all potentially affected customers.

Alternatives to Pipeline Injection

Rather than targeting complex variable-source feedstocks of RNG for injection into utility pipelines, PG&E calls attention to several other proven and viable end-uses of RNG including on-site power generation, liquefaction, and compression for vehicle fuel. PG&E believes that such other end-uses, which can all be successfully accomplished at the landfill site, should be used as an alternative to pipeline injection.

At the December 14, 2010, public workshop discussing the 2011 Bioenergy Action Plan, Commissioner James Boyd of the CEC mentioned a developing methodology for classifying RNG created and used on-site such that the RNG qualifies for green attributes without being injected into utility pipelines. Such a methodology would

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[3] AB 4037, Chapter 932, Statutes of 1988 Landfill Gas-Toxicity

essentially eliminate the need to require utilities to accept certain types of RNG that are both potentially costly and dangerous to customers and utility infrastructure. PG&E believes that this methodology should be explored as yet another alternative to pipeline injection.

Standardization of Gas Quality Tariffs

The 2011 Plan calls for the development of a uniform regulatory gas quality standard for biomethane injection into utility gas pipelines. The creation of a standardized gas quality tariff for biomethane-to-pipeline injection projects that does not differentiate between different feedstocks is not recommended. The gas quality from biomethane injection projects will vary with every feedstock and with every project. Every feedstock used in RNG projects may present different gas quality challenges whether used as a pure feedstock or as a co-digested feedstock. Utility gas quality tariffs must remain flexible such that utilities can test for whatever constituents of concern require analysis to protect customers' health and prevent internal corrosion of pipelines. Thus, PG&E continues to support an assessment of gas quality requirements on a project-level approach.

IV. Conclusion

PG&E is grateful for the opportunity to participate in this discussion and fully supports interagency coordination on policy matters where appropriate.