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California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Attention: Mr. James McGarry
Energy Division – CPUC

Subject: Reply Comments on BioMAT Staff Proposal

Dear Mr. McGarry,

By way of this letter, Bennett Environmental, Inc. would like to submit its comments on the Commission's BioMAT Program Review and Staff Proposal. Bennett Environmental, Inc. helps dairymen and food processors turn wastewater liabilities into sustainable assets. Our proprietary technologies help to optimize the food, energy, water nexus and solve problems with greenhouse gases, nitrogen, and water scarcity. This is important to maintain strong industries and communities in California, particularly in the Central Valley and amongst our disadvantaged communities. The issue that we would like to bring up relates to the electrical interconnection and metering requirements.

Currently the BioMAT program, per Section 5.2.1 of the BioMAT PPA (https://www.pge.com/includes/docs/pdfs/b2b/wholesaleelectricsuppliersolicitation/BioMAT/BioMAT_PPA_Dec2017.pdf), requires that electrical generators be metered *"...through a single CAISO revenue meter located on the high-voltage side of the Project's final step-up transformer nearest to the Interconnection Point..."*. The Investor Owned Utilities ("IOU") will not allow a CAISO or customer meter to be installed downstream of the utility point of connection ("POC"). This means that the electrical interconnection must take place at the primary voltage of the local utility grid, which is typically 12KV, 4160V or 66KV, rather than being interconnected with a secondary service at 480V.

We believe that this requirement is related to the fact that the BioMAT Program does not want to pay for the losses associated with the project transformer, which are typically <1%. What this means from a project design and installation standpoint is that instead of installing a 480V main switchgear & Metering service ($40K - $60K) with a utility supplied transformer, the project is forced to provide the transformer ($40K - $60K) , a 12KV main switchgear & metering service ($210K), 12KV splicing ($10 - $15K), a 12KV switch ($10K) and larger concrete pads to accommodate the larger equipment.

Most of the smaller dairies are not good candidates for pipeline or vehicle fuel projects, but can still be good BioMAT candidates. Given this fact, it is imperative to keep such smaller project interconnection costs to a minimum. With a dairy with 1800-2200 milk cows, 500-600 kW of electricity can be generated at 480V, but the additional interconnect costs are significant and prohibitive. It is also worth noting that these switchgear costs are pretty much the same whether you're dealing with a 400 kW project or a 5 megawatt project.

On smaller projects in the 400kW to 1MW range, the cost increases associated with this requirement are upwards of $250K - $300K, which is an approximate 30% increase in the system installation cost. Based on the average dairy size in the Central Valley, our findings are that approximately 75% of dairies fall in this size range. This is clearly cost prohibitive and is more than enough to kill the project for something that has nothing to do with the viability of the specific project site itself.

We understand that the utility should not be responsible to pay for kW*hrs that are not being delivered to the grid due to losses associated with the Project's final step-up transformer. Therefore, we would like to suggest that Section 5.2.1 of the BioMAT PPA language be revised to include language similar to the following: *"When the cost to install the CAISO meter on the high-voltage side of the Project's final step-up transformer is so large that it results in a financial hardship on the project, the meter may be installed on the low-voltage side of the Project's final step-up transformer if the CAISO meter revenue meter has the capability to be programmed to account for the transformer loses."*

There are several currently available revenue grade meters that come with the option to account for transformer losses.

There are two types of name brand meters that provide transformer line loss compensation (TLC). The meter can be programed to compensate for upstream transformer loss:
1- Schweitzer (SEL) SEL-735 Power Quality Revenue Meter
2- Schneider Power Logic ION –8600 series.

This would address the utility's issue of not paying for kW*hrs that are lost in the step-up transformer, while also allowing smaller scale BioMAT projects to proceed without the unnecessary burden of costs associated with having to provide the main service switchgear at 12KV instead of 480V.

Thank you for the opportunity to provide these reply comments on the Staff Proposal.

Sincerely,

John Schaap
Director of Engineering

Reference Info:
BioMAT PPA, Section 5.2.1. All output from the Project ***must be delivered through a single CAISO revenue meter located on the high-voltage side of the Project's final step-up transformer nearest to the Interconnection Point****, and that meter must be dedicated exclusively to the Project; provided that if the CAISO does not permit a revenue meter for the Facility, the Buyer shall specify a revenue quality meter for the Facility. All Product purchased under this Agreement must be measured by the Project's CAISO revenue meter(s), or the revenue quality meter specified by Buyer, to be eligible for payment under this Agreement. Seller shall bear all costs relating to all metering equipment installed to accommodate the Project.*