



GREATER LAWRENCE SANITARY DISTRICT

Cheri R. Cousens P.E., *Executive Director*

December 3, 2020

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Ms. Samantha Meserve

Deputy Director, Renewable and Alternative Energy Division

Massachusetts Department of Energy Resources

100 Cambridge Street, 10th Floor

Boston, MA 02114

Subject: Greater Lawrence Sanitary District – Comments on APS

Dear Ms. Meserve,

The Greater Lawrence Sanitary District (GLSD) is a municipal wastewater District created by Massachusetts Legislation in 1968. The District was formed to construct and operate facilities, i.e., wastewater treatment plant, pumping station and metering stations, for the treatment of wastewater from the Environmental Justice communities of Lawrence and Methuen as well as North Andover and Andover. The Environmental Justice communities of Lawrence and Methuen fund well over 50% of the costs of operations. Over time, GLSD extended its service area to include over 250,000 people with the additions of Dracut and Salem, New Hampshire.

GLSD commenced operation in 1977 as a typical wastewater treatment plant but has taken on a leadership role in this energy intensive industry with the addition of an anaerobic digestion process in 1998; the transition to produce and utilize biogas to heat buildings, digesters, and domestic hot water; the installation of solar panels that were installed to offset electrical use and ultimately constructed further enhancements to produce power and heat via a CHP system in December of 2019. These projects have reduced GLSD's reliance on pipeline gas and grid supplied power tremendously hence reducing reliance on fossil fuels and reducing greenhouse gas emissions. Each of these projects have been a step in the District's evolution towards net zero operation.

A major factor with any government project is the economics as we need to take our ratepayers situations in mind. We need to be particularly sensitive to those individuals residing in our Economic Justice communities. As with any project, estimated revenues are a major component of a project when deciding whether to move forward or not. Cost analysis are uniquely sensitive for municipalities given the higher costs of construction in part due to the applicability of prevailing wages that are required of local government projects as well as the lack of the private sector incentive of the ITC at 10%.

When financial models were developed for the Organics to Energy Project, APS credits were a major part of why GLSD moved forward with this \$30M project in

partnership with the Commonwealth. Our joint goal was to help ensure the Organics Ban was and will continue to be a national model.

The costs to operate and pay the debt service on this state supported Organics to Energy Project as a percentage of the GLSD's total budget is substantial. The cost should not fall solely on the ratepayers of just our member communities, but all the residents of Commonwealth as the District has agreed to accept food waste from across the State to address the State's Organics Ban.

This is especially notable regarding our Economic Justice communities including Lawrence which is considered one of the poorest communities in our State. This project was formed as a long-term partnership in both construction and operations. The Commonwealth's financial contribution towards operations in the form of APS credits is unique to only our facility and should be given priority consideration.

Please find responses to several of the 2020 APS Minimum Standard Review Stakeholder Questions dated November 5, 2020 below:

1. What are the benefits of the APS program to ratepayers, including but not limited to economic, environmental, and societal costs?

As for GLSD's recent Organics to Energy (CHP) Project that allows for the acceptance of food waste from residential, commercial and industrial settings, GLSD has been part of the tremendous diversion of food waste away from incinerators and landfills to recycling the material in anaerobic digesters which allows for the conversion to clean energy, i.e. biogas, for use to produce energy and heat. As outlined in EPA's Report titled "Life Cycle Assessment and Cost Analysis of Municipal Wastewater Treatment Expansion Options for Food Waste Anaerobic Co-Digestion" by Ben Morelli, Sarah Cashman and Sam Arden for the Office of Research and Development, Washington, D.C., June 2019 (EPA/600/R-019/094) this project produced many environmental benefits.

EPA's Report states "Results demonstrate that adoption of SSO co-digestion in combination with the AD and CHP expansion project reduce plant-wide environmental impacts and system operating cost in six of eight environmental impact categories when base AD performance is maintained." The two categories that exhibit minor impacts are acidification and eutrophication potential which have not been evidenced at the facility since the start of operation in December 2019.

Also the report stated that "Reductions in fossil fuel depletion, cumulative energy demand and global warming potential can be particularly dramatic due to their strong link with avoided energy products and disposal processes that yield environmental credits within the analysis." Finally, one of the key findings in the report states "For medium-scale WWTFs with a ready source of SSO, or similar high strength organic waste, investment in AD capacity and CHP systems provides an opportunity to reduce net environmental impact, while reducing energy expenditures over time."

GLSD's Organics to Energy Project not only provides environmental benefits to Environmental Justice Communities, it stabilizes the economics of running a large treatment facility with increasing demands including new and costly regulations.

3. Do you believe the APS program should prioritize technologies which provide the most benefits, such as greatest greenhouse gas emission reductions?

Yes, as exhibited with GLSD's Organics to Energy Project, reductions in fossil fuel usage, black start capability with the advantage to actively island to protect the facility from power interruptions, place this municipal biogas fired CHP system in a class of its own. Due to the uniqueness of this project, it should continue to receive APS credits over time to reduce the economic burden on the environmental justice communities that are investing in clean energy technologies, especially given that this system is the only one in the Commonwealth with such robust gas and exhaust treatment that drives the overall cost to operate and maintain to levels much higher than other projects.

8. Has the APS incentive has an impact on the decision of system owners to invest in APS eligible technologies? Why or why not?

Yes, the APS incentive was a huge factor in the GLSD embarking on a \$30M Organics to Energy Project. The loss of APS credits would be a significant blow to the financial outlook for this project.

12. Is there any additional information you believe DOER should consider in its 2020 APS Minimum Standard Review?

GLSD would like to reiterate the higher costs for GLSD, a municipal entity, to construct and maintain a state-of-the-art Organics to Energy Project that has been nationally recognized as a premier environmental project nationally. The APS credits are necessary to keep this project economically feasible for the repayment of loan payments over the next 20 years and the other costs for operation and maintenance – which are much higher for this project due to the Best Available Control Technology included in this project such as Oxidative Catalyst (OC) and Selective Catalytic Reduction (SCR) that are considered cutting edge and are not included in other state projects.

Comment on the Daymark Study:

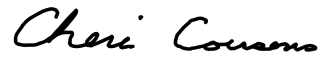
Specifically, regarding Large CHP Systems and the initial **Installation Costs estimated to be \$2028 per kW** and **Fixed O&M Costs of \$8/kW-year**. The Installed Cost (\$/kW) and Fixed O&M (\$/kW-year) appear to be very low, especially the fixed O&M costs by at least an order of magnitude.

GLSD's Installed Cost for the CHP System was nearly \$4700 per kW and the Fixed O&M is nearly \$125 per kW-year.

Thank you for the opportunity to submit these comments on behalf of the Greater Lawrence Sanitary District and I look forward to your final determinations that continue to bolster projects such as the Organics to Energy Project.

Please let me know if you need additional information or have questions regarding these comments.

Regards,

A handwritten signature in cursive script that reads "Cheri Cousens".

Cheri R. Cousens, P.E.
Executive Director