

Alternative Technology Advisory Subcommittee
Los Angeles County Solid Waste Management Committee/
Integrated Waste Management Task Force

Minutes for March 21, 2019

900 South Fremont Avenue
Alhambra, CA 91803

SUBCOMMITTEE MEMBERS PRESENT:

Chris Coyle, rep by Dennis Montano, Republic Services – Sunshine Canyon Landfill
John Kaddis, Los Angeles County Department of Public Health
Tim Hall, rep by Scott Beckner and Michelle Dewey, California Department of
Resources Recycling and Recovery (CalRecycle) *
Patrick Holland, rep by Clark Ajwani, Los Angeles County Public Works
Wayde Hunter, North Valley Coalition of Concerned Citizens
Ron Kent, Southern California Gas Company *
Ben Lucha, City of Palmdale *
Kevin Mattson, Waste Management
Mark McDannel, Los Angeles County Sanitation District
Mike Mohajer, Los Angeles County Integrated Waste Management Task Force

SUBCOMMITTEE MEMBERS NOT PRESENT:

Rob Williams, UC Davis Policy Institute for Energy, Environment and the Economy
Alex Helou, City of Los Angeles
Kay Martin, Bioenergy Producers Association
Eugene Tseng, UCLA Solid Waste Program

OTHERS PRESENT:

Elijah Carder, Los Angeles County Public Works
Sue Higgins, Alternative Resources, Inc. (ARI) *
Brandon Moffat, StormFisher
Carol Oyola, Los Angeles County Public Works
Margarita Quiroz, Los Angeles County Public Works
Sam Shammas, Los Angeles County Sanitation District

* Designates participants over the telephone

I. CALL TO ORDER

Mr. Ajwani called the meeting to order at 10:04 a.m.

II. APPROVAL OF MINUTES FROM FEBRUARY 21, 2019 MEETING

A motion to approve the minutes from the February 21, 2019 meeting was made by Mr. Mohajer and seconded by Mr. Hunter. The motion passed unanimously.

III. PRESENTATION FROM BRANDON MOFFAT OF STORMFISHER

Mr. Moffat presented for StormFisher, a company that operates an anaerobic digestion facility in London, Ontario. StormFisher recently sold their facility to an investment firm, Generate Capital, but continues to operate the facility. The facility is a wet anaerobic digestion facility accepts approximately 100,000 metric tons per year of organic waste. Mr. Moffat stated that the facility's primary feedstocks include industrial, commercial, and institutional sources of organic waste, including grocery stores, restaurants, and food processors. The facility also de-packages incoming food waste. Mr. Moffat stated that the facility cost about \$40 million to build.

Mr. Moffat stated that the facility generates electricity and is expanding to produce a negative-carbon renewable natural gas (RNG) fuel and also uses thermal hydrolysis to dry the digestate and create organic fertilizer. Mr. Moffat stated that the facility sells power for 13.5 cents per kilowatt-hour and the fertilizer for \$100 per ton. Mr. Moffat said that the facility also produces a liquid effluent that is treated and discharged into the sanitary sewers, but could also potentially be land applied for irrigation.

Mr. McDannel asked if the hydrolysis is a chemical or biological process. Mr. Moffat answered it is biological process.

Mr. Moffat noted that the facility completes air changes in its buildings and processing areas to prevent odors. The air is treated with a carbon treatment system or biofilter before it is exhausted.

Mr. Moffat continued with his presentation showing different types of digesters that can be selected during the project development process based on the anticipated amount and type of feedstock. Mr. Moffat commented that residential organic waste feedstocks in California will likely be comprised of commingled food and green waste due to the requirements of Senate Bill 1383 (SB 1383).

Mr. Moffat spoke about StormFisher's public-private partnership (P3) projects, including the Harvest Power Facility in Orlando. The facility received the Federal Investment Tax Credit Grant in 2012 and received 30 percent of its capital when the facility came online.

Mr. Moffat stated that StormFisher facilities can be built in urban areas, such as at or near landfills, transfer stations, materials and recovery facilities, and wastewater treatment plants, with proper capture and treatment of air emissions. He continued that facilities need access to gas, water, and sewer lines. Mr. Moffat stated that public engagement is necessary in the pre- and post-development periods and regularly thereafter. He added that facilities could also be sited with a composting operation to provide high solids anaerobic digestion.

Mr. Moffat commented that the volume of digestate is not greatly reduced through wet anaerobic digestion and that digestate management may cost \$7 to \$8 per ton.

Mr. Ajwani asked why there is little volume reduction for food waste feedstocks since there is moisture in food waste. Mr. Moffat responded that water is added throughout the process of wet anaerobic digestion, but that high-solids anaerobic digestion may see a greater volume reduction than wet anaerobic digestion.

Mr. Ajwani asked about the percentage of green waste and food waste feedstocks. Mr. Moffat responded that the London facilities receives 100 percent food waste. He added that the Halifax facility receives a combination of green waste and food waste, but the digester processes mostly food waste and much of the green waste goes directly to composting to minimize the liquid effluent from the facility.

Mr. McDannel commented that many people believe that the liquid effluent is a fertilizer that can be sold. Mr. Moffat said not to assume that the liquid can be sold for a profit and to consider it a byproduct waste stream.

Mr. Moffat mentioned that finding a site in California, and specifically in Los Angeles County, can be very challenging due to the high cost of real estate and competition for other land uses. Mr. Moffat discussed financing options and tools that would help with infrastructure development, such as property tax abatement for the first two years of a project. Mr. Moffat added that P3s can be financed through the infrastructure financing act and by the Energy Services Company (ESCO) model. Mr. Moffat also mentioned that SB 1383 would encourage infrastructure development. He commented that some jurisdictions use flow control to require haulers direct their waste to specific facilities and others allow the hauler to decide where they want to take their waste.

Mr. Ajwani asked about Mr. Moffat's thoughts on which method is most favorable. Mr. Moffat responded that flow control may result in higher costs for ratepayers, but a lack of flow control to a specific facility may result in delays in building new infrastructure. Mr. Moffat mentioned that collaboration between haulers and jurisdictions is needed to promote facility development. Mr. Moffat added that regional solutions where municipalities share infrastructure can help reduce costs.

Mr. Kaddis asked if there had been a study on the noise level at the facility. Mr. Moffat responded they comply with noise requirements at every facility. He

added that once a facility is built, they audit for compliance and implement mitigation, if necessary, and that facilities are annually tested for compliance.

Mr. Kent from Southern California Gas Company (SoCalGas) asked if StormFisher had specific plans for projects in Southern California. Mr. Moffat responded that they are working with waste collection companies and members of the subcommittee regarding the development of infrastructure in Southern California. He stated that last October, StormFisher signed an agreement to receive financing support through Generate Capital, but still needs to find land for the facilities.

Mr. Kent asked if StormFisher had spoken with SoCalGas. Mr. Moffat answered that they have, and added that he recently attended a Bioenergy Association of California meeting in Sacramento where they discussed RNG mandates and programs in other jurisdictions.

Mr. Ajwani asked if they had discussions with municipalities. Mr. Moffat responded that they have been working directly with haulers, because working directly with jurisdictions in the past has resulted in public concern. He added that municipalities interested in facility development can contact StormFisher.

Mr. Mohajer asked if StormFisher desires a guaranteed feedstock. Mr. Moffat responded that is their preference, but due to resistance to put-or-pay contracts, they are open to securing feedstock through franchise agreements. Mr. Mohajer asked how long of a contract StormFisher would want for guaranteed feedstock. Mr. Moffat responded ten to twenty years, as long as there is a return on equity.

Mr. Ajwani asked about the reason for fluctuating tipping fees at the Ontario facility. Mr. Moffat responded that StormFisher lowered its tipping fees to ensure sufficient feedstock for the facility and then raised the tipping fees over time as demand grew. Mr. Moffat stated that the initial tipping fee started at \$35 to \$40 per ton, to be lower than landfill tipping fees. He added that their tipping fees are now around \$80 per ton varying based on the energy value and contamination rate of the incoming material.

IV. UPDATE ON CONVERSION TECHNOLOGY POLICY AND LEGISLATION

Mr. Ajwani stated CalRecycle hosted a Public Hearing last month regarding Senate Bill 1383 regulations and that a full update would be presented at the Task Force meeting at 1:00 p.m.

V. UPDATE ON CONVERSION TECHNOLOGY EVENTS/MEETINGS/OUTREACH ACTIVITIES

Mr. Ajwani mentioned the upcoming conferences:

- BioCycle West Coast Conference, April 1 – 4, 2019, Portland, OR
- SWANA Western Regional Symposium, April 8 – 11, 2019, Fish Camp, CA
- WasteExpo, May 6 – 9, 2019, Las Vegas, NV
- Waste Conversion Technology Conference, June 2 – 5, 2019, Atlanta City, NJ
- International Biomass Conference, February 3 – 5, 2020, Nashville, TN

Mr. Ajwani added that Public Works staff will attend the BioCycle and SWANA conferences and that Public Works staff will present on the conversion technology program at the Waste Conversion Technology Conference. Mr. Ajwani also added that there is an upcoming Southern California Waste Management Forum Business Meeting on May 2, 2019, in Fullerton, but the agenda has not been posted.

Mr. McDannel stated that he will be presenting at the California Water Environment Association conference in April in Palm Springs, California. He added that the conference will include a session on food waste and wastewater treatment plants. Mr. Mattson mentioned the anaerobic digestion facility that Waste Management works with in New York will also speak at the conference. Mr. McDannel commented that Wastewater Embassy states that existing wastewater treatment plants can take 75 percent of the food waste from California.

PROJECT DEVELOPMENT

Ms. Higgins stated that Clements Environmental monitored the Assembly Bill 1045 interagency organic materials management listening session in February and summarized it for Public Works staff. She stated that Clements Environmental also prepared an overview of permitting requirements of biomass facilities, including identification of operating and idle biomass facilities in California.

Ms. Higgins stated that Ultrasystems is conducting preliminary research for a potential outreach document that would compare emissions from thermal conversion technologies to waste-to-energy and fossil fuel powerplants.

Finally, Ms. Higgins stated that ARI is continuing preparing a summary of small-scale thermal conversion technologies to process municipal solid waste, focusing on technologies that can process between one and ten tons a day.

VII. PUBLIC COMMENTS

No public comment.

VIII. ADJOURNMENT

The meeting adjourned at 10:56 a.m. The next ATAS meeting is tentatively scheduled for Thursday, April 18, 2019 at 10:00 a.m. in the Public Works Alhambra Room.