

Los Angeles County Solid Waste Management Committee/  
Integrated Waste Management Task Force

**Unofficial Minutes for August 15, 2019**

Los Angeles County Public Works  
900 South Fremont Avenue  
Alhambra, California

COMMITTEE MEMBERS PRESENT:

Jeff Farano, Institute of Scrap Recycling Industries  
Betsey Landis, Environmental Organization Representative  
Mike Mohajer, General Public Representative  
Liz Reilly, California League of Cities-Los Angeles Division

COMMITTEE MEMBERS REPRESENTED BY OTHERS:

Barbara Ferrer, rep by Shikari Nakagaw-Ota, Los Angeles County Public Health  
Robert Ferrante, rep by Sam Shammass, Sanitation Districts of Los Angeles County  
Wayne Nastri, rep by Jason Aspell, South Coast Air Quality Management District  
Mark Pestrella, rep by Carlos Ruiz, Los Angeles County Public Works

COMMITTEE MEMBERS NOT PRESENT:

Craig Beck, Long Beach Public Works Department  
Margaret Clark, League of California Cities  
Jack Hadjinian, League of California Cities-Los Angeles Division  
David Kim, City of Los Angeles  
Gideon Kracov, Los Angeles County Disposal Association  
Sharon Tso, City of Los Angeles  
Enrique Zaldivar, City of Los Angeles Bureau of Sanitation

OTHERS PRESENT:

Elijah Carder, Los Angeles County Public Works  
Perla Gomez, Los Angeles County Public Works  
Dr. Nhut Ho, Human Automation Teaming Solutions  
Wayde Hunter, North Valley Coalition of Concerned Citizens  
James Oyler, Genifuel Corporation  
Margarita Quiroz, Los Angeles County Public Works  
Kawsar Vazifdar, Los Angeles County Public Works

**I. CALL TO ORDER**

Meeting called to order at 1:15 p.m. by Ms. Landis.

**II. APPROVAL OF THE JUNE 20, 2019 AND THE JULY 18, 2019 MINUTES**

Did not approve the June 20, 2019 and the July 18, 2019 minutes due to lack of quorum. The approval of the June 20, 2019 and the July 18, 2019 minutes was postponed until the next meeting.

**III. REPORT FROM THE PUBLIC EDUCATION AND INFORMATION SUBCOMMITTEE (PEIS)**

Mr. Mike Mohajer reported that the subcommittee considered some articles to be published in the Fall 2019 newsletter. The Summer 2019 newsletter will most likely be released by the end of next week or early the following week. Some of the articles chosen for the Fall are updates on the Senate Bill (SB 1383) regulations, SB 1383 Draft Program Environmental Impact Report (EIR), Los Angeles County Sustainability Plan, a summary of the Los Angeles County Report on National Trends in Recurring Emissions through Building Decarbonization Program, Goals and Priorities Subcommittee article, and a legislation update. The Fall 2019 issue should be released after the first session of the legislation in October 2019.

**IV. REPORT FROM THE ALTERNATIVE TECHNOLOGY ADVISORY SUBCOMMITTEE (ATAS)**

Ms. Kawsar Vazifdar reported that Mr. James Oyler of Genifuel Corporation gave a presentation about a hydrothermal processing technology that can be used to create oil and gas from organic waste and municipal solid waste (MSW). She stated that he would also give this presentation to the Task Force. She stated that an update was provided by Alternative Resources, Inc., that they are working to develop a preliminary economic model for a range of different conversion technology (CT) projects and that their subcontractor, Clements Environmental, prepared permitting flow charts for composting and gasification projects as well as a previous flow chart for anaerobic digestion projects.

Ms. Vazifdar gave a brief update on CT news. Sierra Energy announced they have closed a \$33 million Series A investment round, which will help further the commercialization of their gasification technology. The following update of conferences and events can be found in the CT Newsletter and the ATAS minutes:

- Resource Recycling Conference, August 26 – 28, 2019, New Orleans, Louisiana
- SoCal SWANA Chapter Workshop, September 5, 2019, Huntington Beach, CA (Public Works staff will attend)
- RNG Works 2019 Technical Workshop, September 11 - 12, 2019, Nashville, TN
- Biosolids and Renewable Energy Innovation Seminar, September 17, 2019, Playa Del Rey, CA  
(Public Works staff will attend and Sanitation Districts will present)
- US BioGas Conference, October 1 – 2, 2019, San Diego, CA  
WasteCon 2019, October 21 – 24, 2019, Phoenix, AZ
- BioCycle REFOR 19, October 28 – 31, 2019, Madison, WI
- Southern California Waste Management Annual Conference, November 7, 2019, Pomona, CA  
(Public Works staff will likely attend)

#### **V. REPORT FROM THE FACILITY & PLAN REVIEW SUBCOMMITTEE (FPRS)**

Ms. Landis reported that staff provided an update of odor complaints from the Air Quality Management District (AQMD) hotline regarding the Sunshine Canyon Landfill (SCL). Seven odor complaints reported and 3 of those complaints were a “No Field Response” during the month of July 2019 regarding the Sunshine Canyon Landfill (SCL). This is in comparison to June 2019, which was increased from 5 to 7 complaints into July 2019, and compared to July 2018, decreased from 16 complaints to 7 complaints. The total number of complaints this year is 136. As of August 8, 2019, AQMD has not issued any Odor Complaint Notices of Violation to SCL for the month of July 2019.

Ms. Landis reported that the subcommittee discussed perimeter monitoring well 205R and the change in the hours of operation from 6 a.m. to 7 a.m. for material delivery to the SCL. With the committee agreeing, Ms. Landis asked Staff to ask the State what the regulations are for re-abandoning wells, who is responsible, and how to go about making the State demand that a well be re-abandoned.

Ms. Landis also reported that SCL needs to design Cell C carefully because of the many tons of waste on the southside above Granada Hills, causes bad air. The FPRS approved a motion to recommend that Public Works consider holding a public meeting to discuss choices for building Cell C and contouring.

Ms. Landis reported on the update of the 2nd Quarter Vegetation Report stating it was helpful and the next vegetation meeting is in two weeks.

Ms. Landis reported an update on SB 1383. There is work on comments on the program EIR portion for the proposed regulations implementing this bill. Members of the committee may send comments to staff for this update.

Ms. Landis mentioned that the FPRS has discussed the dangers of lithium batteries and their disposal in landfills and transfer stations because of their liability to explode and burn.

Mr. Farano commented that a notice can be issued to the manufacturer, legislators, or an outreach notice regarding proper handling of the lithium batteries. Mr. Mohajer mentioned that individual cities working with franchise haulers, since they already pass out educational materials, can go through the haulers. Ms. Landis proposed sending a letter to the franchise haulers in the County to provide educational materials regarding lithium batteries. Ms. Reilly suggested an actual flyer, and Ms. Landis agreed. Mr. Ruiz responded that Staff could develop education materials about lithium batteries that could be given out during the Household Hazardous Waste events and can be shared with cities and unincorporated areas of the County. He will work with Staff on the committee's recommendation on creating a flyer. Ms. Landis suggested to possibly push the Los Angeles County Board of Supervisors in providing a flyer regarding the dangers of improper disposal of lithium batteries. Mr. Ruiz added the Public Works can work on it. Lastly, Ms. Landis mentioned the difficulties of airlines having restrictions on certain laptops, and sending a letter to producers to nullify the manufacturing of those types of batteries.

## **VI. LEGISLATIVE UPDATE**

Due to no quorum again, Mr. Carder mentioned that it would be the same update as the last Task Force meeting. Thus, no update was provided. Ms. Landis emphasized the importance of meeting quorum to vote for matters in the [Legislative Table](#).

## **VII. PRESENTATION ON GENIFUEL HYDROTHERMAL PROCESSING TECHNOLOGY**

Mr. James Oyler from the Genifuel Corporation gave a [presentation](#) about hydrothermal processing (HTP) technology that can be used to create oil and gas from organic waste and MSW, among other feedstocks. He stated that this technology can also process paper and plastics, but not metal and glass. He stated that the outputs are biocrude oil refined for diesel, gasoline, or jet fuel and

biogas comprised of methane and carbon dioxide which can be used to create pipeline renewable natural gas, electricity, or transportation fuel.

Mr. Oyler described two projects using the HTP technology to create oil and gas from wastewater sludge. He stated that one is at a Metro Vancouver wastewater treatment plant in Vancouver, Canada in partnership with Parkland Fuel who refines the biogas generated at the plant into fuel. He stated that the other Central Contra Costa Sanitary District (Central San) facility in Martinez, California. He stated that the facility also has two incinerators to process their wastewater sludge, which will be retired by the year 2025.

Mr. Farano commented that these projects are producing fuels similar to fossil fuels. Mr. Oyler commented that the projects create fuels from materials that would otherwise decompose into landfills and generate greenhouse gases, and also offset the usage of fossil fuel. Mr. Oyler added that the overall process does not generate additional greenhouse gases and actually results in a net reduction in greenhouse gas emissions.

Ms. Landis asked how much water the projects use and the source of the water. Mr. Oyler responded that wastewater solids contain enough water for the HTP process, even when mixed with drier MSW.

Mr. Aspell asked how the technology addresses siloxane issues. Mr. Oyler responded that because wastewater contains siloxanes, the biogas produced from an anaerobic digester also contains siloxanes. He continued that in the HTP process, the siloxanes remain in the water and are not present in the biogas or discharged into the air. Mr. Aspell asked about the heating value of the biogas and whether NOx emissions are produced from the HTP process. Mr. Oyler responded that the biogas contains 70 percent methane and 30 percent carbon dioxide, so the heating value would be 70 percent of the heating value of pure methane if the carbon dioxide is not removed for local use. He continued that the carbon dioxide could be removed to create pure methane, which is the same as pipeline natural gas. He added that typical digester gas typically only contains 60 percent methane.

Ms. Reilly asked about the difference in producing biogas compared to biocrude oil. Mr. Oyler answered that it is a two-stage process, with the first stage producing oil. He continued that about 50 percent of the organic content is converted in the first stage, and that the other 50 percent of the organic content is contained in the water, which is gasified to produce methane. He added that at the end of the second stage, the water is clear and no longer contains organic matter.

Mr. Mohajer noted that in California, recovered methane used to make electricity does not qualify toward decarbonization, which is limited to electricity generated by wind and solar. He continued that the State is moving toward the use of electricity to achieve decarbonization and that new buildings will not have piping for natural gas supply.

Mr. Ruiz asked how much pre-processing is needed for the feedstock to be processed through the HTP technology. Mr. Oyler responded that the technology includes a pre-processing vessel to remove sand, dirt, glass, and metals that cannot be converted into biogas and biocrude oil, but would prefer feedstocks that contain as much of the contaminants removed as possible. The technology can handle a certain amount of plastic as long as it is mixed with other feedstocks such as MSW or food waste.

Ms. Landis asked how often the system needs to be cleaned. Mr. Oyler responded that the pre-processing vessel must be cleaned every time it is used.

#### **VIII. ENVIRONMENTAL MONITORING SYSTEM WITH HUMAN AUTONOMY TEAMING TECHNOLOGIES**

Dr. Nhut Ho, founder of the Human Automation Teaming Solutions Company, gave a [presentation](#) about a highly autonomous system that can help the human operators. The United States is the number one generator of trash in the world and the average American produces 102 tons over their lifetime. The trash is mainly buried, then decomposes and generates methane that contributes to climate change. According to experts in the field, enhanced environmental monitoring is needed to deliver real time actionable data to find leaks and validate abatement projects. The case study data from SCL showed the methane flux was reduced up to 60 percent with mitigation measures developed based on significant amount of technical and legally defensible data. Since 2016, the Landfill has implemented extensive system engineering base mitigation measures aimed to design and improve the Landfill gas system and to provide temporary enhancement to the Landfill intermediate covers to reduce surface emissions. Posi-Shells and ClosureTurf are very effective at controlling odor, erosions, and dust.

National Aeronautics and Space Administration/Jet Propulsion Laboratory arrived at the conclusion the need of surface monitoring, using real-time surface monitoring to drive the operational changes to reduce surface emissions. Landfill operators try to remediate odors, but still using 1930s techniques and the standard practice of inspectors walking in a predetermined pattern with handheld devices to measure the methane and leaks, could go undetected for days or

months. With the advanced data science and technology, abatement activity and leaks can be detected in real time in contrast of what currently is done. It has been possible with the company's device called Consoar™ and it consists of a system of a land rover and drone. They are used to cover ground where inspectors are unable to reach and be able to upload the data into the company's cloud, powered by Amazon Web Services, and it would be available to the operator. Consoar™ provides 24-hour real time analysis, which is a big contrast to the current practice of inspectors walking to check the emission.

Dr. Ho explains that the Consoar™ will work with a single operator and manage multiple airplanes. Human Automation Teaming Solutions has developed control stations, conversation interfaces, so that the operator can use voice command controls on the devices. This would allow higher actionable information quality and quantity at a lower cost, multidisciplinary approach and work with the inspectors, have a team to look at the human factor of it because to gain their trust and acceptance to use it and make it available to the people in real time.

Dr. Ho's research is from closed landfills in Southern California for the last two years. They followed the inspectors of the landfills, learned their goals and tasks, and what information is needed for their job. In doing so, they were able to create information and workflow models of what is being done at the landfill and how to best bring automation and abatement tools to help the inspector do their job at an affordable cost.

Dr. Ho invites people to join in on the efforts, but they are specifically looking for partnerships with enforcement agencies, regulatory bodies/organizations, and landfill operators with active landfill operations.

Ms. Landis asked how the drones would work in a wind tunnel. Dr. Ho responded that an alternative would be working with a land rover since during certain wind conditions inspectors would not be able to conduct their inspection. Ms. Landis commented that she is not sure if it could maintain a standard reading because of the weather at SCL and Chiquita Landfill are near a wind tunnel. Dr. Ho responded that it is needed to anticipate such factors. The rovers are used instead of the drones. Ms. Landis asked how many drones it would take to inspect a landfill. Dr. Ho responded depending on a few factors such as how many grids to cover, how often it is being inspected, and an inspector to track the odors, but with the drones four times faster than an inspector record on the handheld device.

Mr. Ruiz asked about the accuracy given the threshold requirements for point-source and average of surface emissions and asked if it would require to change in the rule to allow the use of the equipment. Dr. Ho responded that there are

weather restrictions, so to instead use their GPS system on the rovers to get closer accuracy of the measurements of a gas leak.

**IX. CALRECYCLE UPDATE**

CalRecycle members were not present.

**X. PUBLIC COMMENT**

No public comments.

**XI. ADJOURNMENT**

The meeting adjourned at 3:00 p.m. The next meeting date is scheduled for Thursday, September 19, 2019, in Conference Room B of Public Works Headquarters.