

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

Minutes for May 21, 2020

WEB CONFERENCE

Los Angeles County Public Works
900 South Fremont Avenue
Alhambra, CA 91803

SUBCOMMITTEE MEMBERS PRESENT:

Tim Hall, California Department of Resources Recycling and Recovery (CalRecycle)
Wayde Hunter, North Valley Coalition of Concerned Citizens, Inc.
Ben Lucha, City of Palmdale
Kevin Mattson, Waste Management
Mike Mohajer, Los Angeles County Integrated Waste Management Task Force
Christopher Sheppard, Los Angeles County Public Works

SUBCOMMITTEE MEMBERS NOT PRESENT:

Alex Helou, City of Los Angeles
Steve Cassulo, Waste Connections
Chris Coyle, Republic Services – Sunshine Canyon Landfill
Ron Kent, Southern California Gas Company
Kay Martin, Bioenergy Producers Association
Mark McDannel, County Sanitation Districts of Los Angeles County
Eugene Tseng, UCLA Solid Waste Program
Carolyn Watson, Los Angeles County Department of Public Health
Rob Williams, UC Davis Policy Institute for Energy, Environment and the Economy

OTHERS PRESENT:

Tracy Anthony, Alternative Resources, Inc. (ARI)
Michelle Dewey, California Department of Resources Recycling and Recovery (CalRecycle)
Carol Oyola, Los Angeles County Public Works
Sarah Solomon, Los Angeles County Public Works
Elizabeth Zaragoza, Los Angeles County Public Works
Jeffrey Zhu, Los Angeles County Public Works

I. CALL TO ORDER

Mr. Christopher Sheppard called the meeting to order at 10:06 a.m.

II. APPROVAL OF FEBRUARY 20, 2020, SUBCOMMITTEE MINUTES

Approval of Minutes could not be made due to no quorum.

III. PRESENTATION RAVEN SR

Chief Financial Officer Matt Scanlon and Chief Executive Officer Matt Murdock presented on Raven SR, a renewable energy company based in Wyoming with operations in California. Raven SR uses gasification to convert biomass, plastics, paper, medical waste, toxic waste into different clean fuels such as hydrogen or synthetic fuels. Raven SR operates at a temperature low enough to handle glass and metals and avoids issues with tar buildup or hotspots that are typically found in gasification. The California EPA has ruled the system as a non-incineration process.

Mr. Murdock stated that a system that processes about 50 wet tons of municipal solid waste (MSW) a day will require about a quarter of an acre and a 150 wet ton system will take about a half-acre or more depending on the traffic and storage requirements. He stated that a facility that processes between 25 to 150 tons per day would need about two or three skids. He added that a 25 dry ton system is equivalent to about three shipping containers.

Mr. Murdock stated that a 50 wet ton system can produce 5,000 gallons of synthetic fuels depending on the feedstock and 5,000 kilograms of 99 percent pure renewable gaseous hydrogen with MSW.

Mr. Murdock stated that Raven SR has not completed air permitting with the South Coast Air Quality Management District, but they have obtained permits for the gasification facility in Northern California. He mentioned that Bay Area Air Quality Management District's (BAAQMD) supervisor is overseeing this process for their planned gasification project at the Zanker Recycling facility in San Jose, California. He added that they currently have an engineering system operating at the Richmond Field Station, in Berkeley, California that has been approved by the BAAQMD. He continued that they are also considering a project in San Jose to process MSW and post-anaerobic digester (AD) waste from an AD plant and calculating the amount of hydrogen the project would produce.

Mr. Murdock stated that Raven SR would like to be classified as diversion technology. He continued that the definition of gasification within state statutes requires gasification technologies to have zero emissions, and that Raven SR is close to meeting this requirement but is not able to achieve it. Mr. Sheppard stated that Raven SR would be classified as biomass conversion depending on the

feedstocks being processed and suggested having a discussion with CalRecycle about the status of diversion credits for their technology under the Senate Bill 1383 regulations.

Mr. Murdock stated that they are looking into fuel offtake agreements. He stated that they recently identified several potential off-takers of hydrogen and synthetic fuels in Southern California. Mr. Scanlon added that they received a list of facilities and asked if the ATAS could provide guidance on potential sites in Southern California. Mr. Sheppard responded that a list of sites prepared by the ATAS and County Conversion Technology (CT) Program can be shared with Raven SR along with contact information for each site.

Mr. Tim Hall commented that the proposed SB 1383 regulations include a process for working with CalRecycle and the Air Resources Board to determine if technologies qualify as diversion. Mr. Hall asked about the type of residual waste coming out of the system and the feedstock to residual waste ratio. Mr. Murdock stated that the residual waste is biocarbon, which is essentially a black graphitic powder and is not the same as biochar since the technology does not include combustion. He stated that about 15 percent of the feedstock will become biocarbon. He added that the biocarbon was tested for market applications. Mr. Hall added that he believes that using food waste as a feedstock may limit Raven SR's ability to qualify as biomass conversion.

IV. UPDATE ON CONVERSION TECHNOLOGY POLICY AND LEGISLATION

Ms. Solomon stated that the California Office of Administrative Law disapproved the rulemaking package for SB 1383. She also stated that CalRecycle held a 30-day comment period from April 20, 2020 to May 20, 2020. She added that Governor Gavin Newsom extended the SB 1383 rulemaking package resubmission deadline to September 2020.

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

Ms. Solomon listed the following conferences:

- 2020 California State Associations of Counties Legislative Conference – May 27-28, 2020 - cancelled.
- Southern California Waste Management Forum Annual Business Meeting and Webinar – May 27, 2020.
- Southern California SWANA Chapter Workshop - postponed until October 2020, exact day TBD.
- Resource Recycling Conference – August 10-12, 2020, in Austin, TX.
- CRRRA 44th Annual Conference and Trade Show – August 16-20, 2020, in Burlingame, CA.

- Waste Conversion Technology Conference – postponed until August 16-18, 2021, in San Diego, CA.

VI. UPDATE ON CONVERSION TECHNOLOGY PROJECT DEVELOPMENT

Ms. Solomon provided the following updates on behalf of Mr. Jim Osborn of ARI:

- ARI prepared guidance documents for CT facility developers to connect to the electrical grid and summarizing an application process for Southern California Edison.
- Clements Environmental prepared analyses of organic compliance parameters, including fuel usage associated with SB 1383.
- ARI submitted preliminary outlines for project planning and completed research on dehydrators and small-scale food waste technologies for the technology database and prepared economic analysis of gasification of MSW generating hydrogen as an end product.

Mr. Sheppard mentioned that a project by Caribou Biofuels, who had applied for a Department of Energy (DOE) grant to complete pilot biomass and plastics gasification projects, is moving into Phase 2 of the award process. He added that they are also partnering with CalFire on biomass conversion projects in Northern California.

Mr. Hall wanted to clarify from the previous ATAS Minutes that CalRecycle's SB 1383 Progress Analysis Workshop in April was rescheduled to a webinar on June 15, 2020. He added that the notice was made at the CalRecycle Public Meeting earlier in the week.

Mr. Sheppard announced that the approval of February 20, 2020 and May 21, 2020 Minutes would be voted on at the next Subcommittee meeting.

VII. PUBLIC COMMENTS

No comments.

IX. ADJOURNMENT

The meeting adjourned at 11:03 a.m. The next ATAS meeting is tentatively scheduled remotely for Thursday, June 18, 2020, at 10 a.m.