



October 24, 2019

SUBMITTAL VIA EMAIL TO: RCave@baaqmd.gov

Mr. Robert Cave, BAAQMD
375 Beale Street, Suite 600
San Francisco, CA 94105

SUBJECT: BACWA MEMBER-SPECIFIC FEEDBACK IN RESPONSE TO BAAQMD
REQUESTS DURING AUGUST 22ND WASTEWATER-SPECIFIC MEETING

Dear Mr. Cave:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to submit member-specific feedback in response to requests made by the Bay Area Air Quality Management District (BAAQMD) to inform the development of Regulation 13, Rules 2, 3, and 4. BACWA is a joint powers agency whose members own and operate publicly-owned wastewater treatment works (POTWs) that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay (SF Bay) Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health. We have an active committee structure with our Air Issues and Regulations (BACWA AIR) Committee charged with working cooperatively with Regulators to address air quality and climate change issues.

We also recognize and support the State in pursuing reductions in methane emissions under Senate Bill 1383 (SB 1383). To accomplish the mandated reductions, one pathway being considered under SB 1383 is the diversion of organic waste from landfills to effectively remove the source of methane (resulting from biodegradation). ***Anaerobic digestion and composting are recognized as the viable means for the diversion and processing of organic waste to successfully reduce methane emissions.***

Most POTWs (and BACWA members) in the SF Bay use anaerobic digestion for stabilization of sewage sludge into biosolids, with one member operating a compost facility and others considering compost as a potential future option. State agencies have made it clear they are looking to POTWs to use existing infrastructure to accept and recycle diverted organic waste to achieve the SB 1383 mandates. We also understand that the BAAQMD would like to see existing facilities continue to operate and maintain low methane emissions, odors, and volatile organic compounds (VOCs) given the expected increase in pre-processed (slurried) organic waste to be received by these facilities. Because the wastewater sector operates both anaerobic digestion and composting facilities within BAAQMD's nine-county jurisdiction, BACWA is actively participating in the Regulation 13 rule development.

The remainder of this comment letter consists of information requested by BAAQMD that was collected and summarized by BACWA members on POTW-specific processes to help inform the next draft of Rule 13-2.

Organic Waste and Biosolids Handling Onsite (POTWs)

BAAQMD hosted a wastewater-specific workshop August 22nd where staff asked BACWA members to provide feedback in response to two specific questions:

1. How are POTWs accepting and handling organic waste onsite?
2. How are biosolids “handled” at POTWs and how does it fit into the context of organics material handling?

In effort to answer these questions, we requested East Bay Municipal Utility District (EBMUD) summarize their experience handling organic (food) waste and biosolids in the context of organic materials handling.

In general, POTWs receive solid food waste that has been “preprocessed” in some fashion, including size reduction (grinding) and contaminant removal, from a material recovery facility. Prior to introducing the preprocessed food waste into an anaerobic digester, POTWs may choose to provide a polishing step onsite (e.g., additional contaminant removal), which is the case at EBMUD. Solid food waste is received by truck, which in the case of EBMUD is dumped into an underground storage tank and slurried by adding water to make it suitable for pumping. If the material requires additional contaminant removal, then it may undergo additional grinding and/or screening just prior to feeding the slurry to an anaerobic digester for stabilization and biogas production. Typically, the food waste is co-digested with municipal wastewater solids (i.e., primary and waste activated sludge). Following anaerobic digestion, the resulting biosolids are dewatered and hauled away for beneficial use. Other than the deposit of food waste in the receiving facility (e.g., underground storage tank at EBMUD), which is opened temporarily to receive the material, the food waste is generally contained in closed tanks and pipelines.

Per your request and for your knowledge, the following bullets provide further detail related to EBMUD’s food waste and solids handling practices:

1. At an offsite solid waste transfer station, food waste is fed through a grinder to reduce particle size to make it suitable for slurring and pumping (at EBMUD). The ground material is referred to as “preprocessed” material.
2. The preprocessed material is delivered to EBMUD by an end dump truck that tips the material into an underground storage tank that is temporarily opened while receiving it.
3. Once the dump truck is emptied, the underground storage tank is closed and treated wastewater is mixed in to create a slurry suitable for pumping.
4. The slurried material is pumped through an enclosed grinder/rock trap device and a screen as a final polishing step to remove additional contamination (such as plastics).
5. The screened slurry is then fed to a blend tank for blending with other organic feedstocks prior to digester feeding.
6. The blended material is fed to anaerobic digesters and digested for several weeks.
7. The digested material (biosolids) is pumped to centrifuges for dewatering.
8. The dewatered biosolids are stored in an enclosed hopper.
9. Dewatered biosolids are deposited into trucks for off-haul and are either land applied as a soil amendment or taken to the landfill for use as an alternative daily cover (ADC).

Exclusion of Biosolids from the Definition of Putrescible Material

As mentioned in the introduction of this letter, anaerobic digestion and composting are used to

process (control the biodegradation of) sewage sludge and organic waste into a stable product (biosolids) for use as a soil amendment. Since biosolids are a stabilized product, by definition they are not putrescible (or liable to decay) and should be excluded from the proposed definition of “putrescible material” in draft Rule 13-2. The remainder of this section further supports the recommendation and need for excluding biosolids from the definition of “putrescible material” based on the City of Santa Rosa’s facility operations and actual methane and VOC emissions measured both inside and outside the storage facility.

Wastewater solids from the Laguna Treatment Plant serving the City of Santa Rosa are first pumped to anaerobic digesters. Microorganisms in the digesters break down the solids to produce biogas, which is used to power a portion of the plant’s energy needs. After approximately 22 days in the digester, the resulting stabilized solids (or biosolids) are dewatered using a belt filter press. The dewatered biosolids are considered a Class B cake that can be beneficially used as a soil amendment (via land application) during the agricultural growing season.

Demand for Class B biosolids land application, however, is weather (seasonally) dependent. Land application can begin on May 1 if the last few weeks of April have been dry enough for trucks to enter the fields where the biosolids are stored and if there is no rain expected in the long-range forecast. The Sonoma County Environmental Health and Safety Department prohibits hauling biosolids and land applying them on sites prior to May 1. Typically, the spreading and incorporation of biosolids takes place in September and October each year in close coordination with seeding of the winter grain crop by the agricultural operator. Spreading earlier in the season is not preferred since land application of biosolids stimulates weed growth and would require application of herbicide to prevent it. Spreading/incorporation activities must be accomplished prior to the start of rainy season, otherwise field access is impossible. While the County allows hauling of biosolids through October, typical practice is to complete hauling of Class B cake through mid-October to avoid having any remaining unincorporated biosolids in the field in the event of early rain. This practice is strictly followed since the agricultural operator cannot operate seeding equipment on wet soil.

Because of the limitations placed on the timing of land application (described above), the City has implemented the ability to store Class B biosolids for several months at a time at the Alpha Seasonal Storage Facility (which is located on a City-owned property). The storage facility is comprised of a roofed structure of approximately 42,500 square feet covering a paved surface, divided into eight storage bins separated by six-foot push walls, with a total capacity of approximately 7,000 wet tons of Class B cake. The facility’s purpose is to maximize biosolids use options by enabling storage of biosolids during wet months, thereby reducing reliance on landfilling as a disposal option. Photos of the storage facility are provided below for reference.



The proposed Rule 13-2 drafted by BAAQMD included requirements to store “putrescible

material” within an enclosure that achieves an overall capture and control efficiency of 80 percent by weight for methane and VOC emissions. First, the City of Santa Rosa used hand-held meters to measure methane and VOCs in and around the storage facility to determine compliance. ***Readings for methane both inside and outside the facility were non-detect, and readings for VOCs inside and outside were around 0.080 ppm and 0.030 ppm, respectively – well below the City’s permitted limit for its High Strength Waste odor scrubber (20 ppm).*** It should be noted that these readings are strictly meant for providing context within this letter and were not collected as part of a scientific study/analysis.

As the draft regulation states, by including biosolids in the definition of putrescible material, it unnecessarily requires the City to enclose its Alpha Seasonal Storage Facility, for which the construction cost is estimated to be \$2.9M (not including soft costs). Major items included in the construction cost estimate:

- Insulating the roof to minimize condensation forming on the underside. It was assumed that the existing roof panels would be removed and replaced with insulated metal panels, which represents approximately \$600k in construction costs.
- A new HVAC system to control temperature and humidity inside the structure. This would trigger the need for an odor control system in addition to electrical upgrades at the site. Together this represents approximately \$900k in construction costs.

BACWA (including the City of Santa Rosa) recommends revising the definition of “putrescible material” to exclude Class A and Class B biosolids.

We very much appreciate the willingness of the BAAQMD staff to work collaboratively with BACWA in the development of the Rules supporting Regulation 13. BACWA supports BAAQMD’s efforts to protect the Bay Area’s air quality.

We would be happy to discuss any questions regarding the information provided. Nohemy Revilla and Randy Schmidt, BACWA AIR Committee Co-Chairs, can be reached at NRevilla@sfwater.org and RSchmidt@centralsan.org, respectively.

Sincerely,



David R. Williams
BACWA Executive Director

Cc: BACWA Executive Board
Nohemy Revilla, BACWA AIR Committee Co-Chair
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