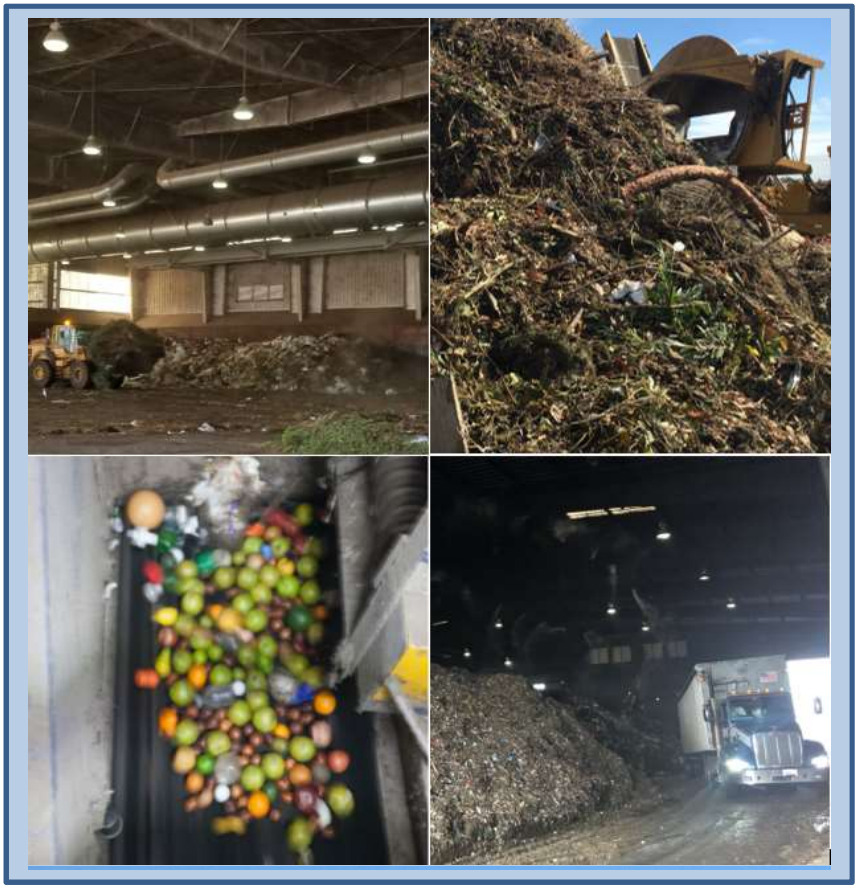
BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

REQUEST FOR COMMENTS REPORT
REGULATION 13, CLIMATE POLLUTANTS:
RULE 2, ORGANIC MATERIAL HANDLING OPERATIONS



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REQUEST FOR COMMENTS REPORT

Regulation 13, Rule 2: Organic Material Handling Operations

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I. INTRODUCTION

According to the United States. Environmental Protection Agency, the average American produces about 4.4 pounds of waste per day, with only about 1.5 pounds of that recovered through composting or recycling.[a] This means that in the United States, a little over 75 percent of waste ends up in landfills. Organic wastes disposed in landfills decompose anaerobically to produce methane, a potent short-lived climate pollutant. In the San Francisco Bay Area, methane emissions from landfills account for a little over half of the entire human-made methane emissions inventory.[b] Reducing emissions of short-lived climate pollutants can have a dramatic effect on climate change in the near term as their atmospheric lifetime is much less than longer-lived greenhouse gasses, such as carbon dioxide (CO_2), and yet they are estimated to be responsible for roughly 40 percent of the current net climate forcing effect. Methane is 86 times more potent than CO_2 on a 20-year time frame.[c]

The State of California made the reduction of greenhouse gas emissions a priority. In September 2016, Governor Brown signed Senate Bill 32 (SB 32, Chapter 249, Statutes of 2016), which mandated a greenhouse gas emissions reduction target of 40 percent below 1990 emission levels by 2030. Senate Bill 605 (SB 605, Chapter 523, Statutes of 2014) requires the California Air Resources Board to develop a plan to reduce emissions of short-lived climate pollutants, and Senate Bill 1383 (SB 1383, Chapter 249, Statutes of 2016) requires the California Air Resources Board to approve and implement a plan by January 2018 to achieve these reductions. SB 1383 also sets a target for reduction of methane emissions of 40 percent below 2013 levels by 2030. Pursuant to SB 605 and SB 1383, the California Air Resources Board subsequently developed the short-lived climate pollutant Reduction Strategy, adopted in March 2017. As part of this strategy, the California Department of Resources Recycling and Recovery (CalRecycle) in consultation with the California Air Resources Board is developing regulations to reduce the level of statewide disposal of organic waste by 50 percent of 2014 levels by 2020 and 75 percent of 2014 levels by 2025. CalRecycle is currently considering adoption of these regulations in the beginning of 2020 to take effect on or after January 1, 2022.[d]

The mandated diversions of recyclables and organic material from landfills will require improvements to existing infrastructure to handle these materials. These activities carry the potential to generate volatile organic compounds (VOCs) and methane emissions and although Bay Area Air Quality Management District (Air District) permits are required for facilities that process sufficient quantities of organic materials, there is currently no Air District rule specific to these operations to provide control measures or other requirements addressing these potential emissions.

In consultation with the California Air Resources Board and the California Air Pollution Control Officers Association, CalRecycle estimates that the diversion mandates will result in an additional 700,000 to 900,000 tons per year of organic material that will need to be processed within the jurisdiction of the Air District.[e] There are currently 15 permitted compost facilities in the Air District that process a total of between 750,000 to 1 million tons of organic material per year. With a potential for the quantity of material processed in the Air District to roughly double, the Air District estimates that it will receive a significant number of applications for new and modified permits for facilities processing organic materials.

The State-mandated diversion of organic material from landfills will result in changes to the ways that facilities process organic materials along with a significant increase in the amount of organic material processed in the Air District. Air District staff is developing a suite of draft rules to address

potential emissions of VOCs and methane from facilities that process organic materials. Draft Regulation 13, Climate Pollutants: Rule 2, Organic Material Handling Operations (draft Rule 13-2) will ensure consistent application of industry best management practices (BMPs) at both existing and new facilities to minimize emissions of methane and VOCs, including odor causing compounds from transfer stations, material recovery facilities (MRFs), and chipping and grinding operations. Additional draft rules to follow will address specific operations at composting operations (draft Rule 13-3), anaerobic digesters (draft Rule 13-4), and landfills (draft amendments to Rule 8-34) and will include measures to address organic material handling operations specifically at those facilities. Emissions from landfills currently represent just over half of the Air District human-made methane inventory. The Air District is developing draft Rule 13-2, along with the other draft rules mentioned above to ensure that the organic diversion mandates result in an overall reduction in methane emissions rather than a redistribution of those methane emissions.

Figure 1a-1d: Organic Material Handling Operations (clockwise from top left: Transfer and Stockpiling; Chipping and Grinding; Transfer to a Sorting Line; Sorting lines within a MRF)

II. BACKGROUND

A. Industry Description

Organic material is processed at a variety of facilities across intersecting streams as it is recovered from the municipal waste stream, and many organic material handling processes are performed at multiple types of facilities. An inexhaustive list of facilities that process organic

material includes: transfer stations, chipping and grinding operations, storage facilities, material recovery facilities (MRFs), composting operations, anaerobic digesters both wet and dry, and solid waste disposal sites. As stated in the previous section the scope of this draft rule will be limited to transfer stations, MRFs and chipping and grinding operations.

Organic material will decompose through natural processes that are encouraged in the presence of water, warmth, and oxygen. In general, the composting process involves a controlled means of adding moisture and constructing a physical arrangement of the material to maintain an ideal environment to facilitate this decomposition of organic material feedstock into a humus-like material rich in nutrients commonly referred to as compost. Composting operations accelerate this decomposition of organic material by controlling key parameters such as porosity, temperature, moisture, pH, and the ratio of carbon to nitrogen in the material. In contrast to the composting process, anaerobic digestion is the breakdown of organic material by microorganisms in an oxygen deprived environment. The main product of anaerobic digestion is biogas, which is composed mostly of methane, and carbon dioxide, with trace amounts of water vapor and other gases. Biogas is a renewable energy source that may be used to power internal combustion engines or microturbines to produce electrical power, or biogas may be compressed to fuel motor vehicles. When organic materials decompose inadvertently at handling facilities upstream of composting operations or anaerobic digesters, there is greater potential for uncontrolled emissions of methane and VOCs, in particular those that may cause odor impacts.

Organic material handling activities include: tipping and transfer operations; sorting and size reduction; storage and stockpiling; and composting (although composting operations will not be addressed in this rulemaking; composting operations will be covered by draft Rule 13-3: Composting Operations).

1. Transfer Stations

Tipping and transfer operations occur when material is unloaded or “tipped” from a container (usually integral to or attached to a vehicle) and transferred to another usually larger vessel for transport or transferred for further processing of the material.

2. Material Recovery Facilities (MRFs)

Organic material streams are often mixed with non-decomposable solid waste or recyclable materials, so the materials must be sorted or separated from the mixed stream, or contaminants may need to be removed from the organic material. Additionally, organic material may be screened by particle size or manipulated to reduce particle size. Throughout various phases of processing operations, organic material may be stockpiled temporarily, often due to the batch nature of processing.

3. Chipping and Grinding Operations

These facilities accept organic material that is usually green material drawn from landscaping operations but may include mixed materials from curbside collection. The feedstock may need to be chipped, ground or shredded to bring the material to the appropriate size, and then it may be mixed or blended to adjust the carbon to nitrogen ratio, bulk density or porosity, and water may be added to adjust the moisture content to make it more amenable to the composting process.

B. Regulatory History

1. Air District Rules/Regulations

Currently, other than Regulation 8, Organic Compounds: Rule 34, Solid Waste Disposal Sites, the Air District does not have a rule that specifically addresses emissions from facilities handling organic material. However, transfer stations, MRFs and chipping and grinding operations would be subject to particulate matter standards of Regulation 6, Particulate Matter: Rule 1, General Requirements and VOC standards of Regulation 8, Organic Compounds: Rule 2, Miscellaneous Operations. Air District Regulation 2: Permits, Rule 1: General Requirements includes permit exemptions for solid waste transfer stations processing of all material in amounts less than 50 tons per day (§ 2-1-121.18) and composting and other similar facilities handling material in amounts less than 500 tons per year (§s 2-1-113.1.2 and 2-1-115.2.3). Any facility processing more than these amounts requires an Air District Permit and may be subject to Regulation 2, Permits: Rule 2, New Source Review for criteria pollutants and Regulation 2, Permits: Rule 5, New Source Review of Toxic Air Contaminants. Depending on emission levels, the facility could be required to implement best available control technology (BACT or TBACT for toxics), as well as be subject to VOC emission offsets. Facilities of sufficient size may meet the definition of a "Major Facility" [1] and thereby be subject to the requirements of Regulation 2, Permits: Rule 6, Major Facility Review, the Air District rule that implements the operating permit requirements of Title V of the federal Clean Air Act.

2. Rules from other Air Districts

The South Coast Air Quality Management District (South Coast) and the San Joaquin Valley Unified Air Pollution Control District (San Joaquin) are the only two air districts in the State that have specific rules for composting operations. The South Coast and San Joaquin Valley Air Districts are both in severe or extreme non-attainment for State and federal ambient ozone standards. San Diego, which is adjacent to the South Coast Air Quality Management District and Ventura, which is adjacent to both the South Coast and San Joaquin Valley Air Districts, are both currently developing rules for composting operations.

South Coast has a suite of rules governing composting operations as well as a rule to address odors from transfer stations and material recovery facilities. In 2003, several rules were adopted, including a general administrative rule for composting and related operations (Rule 1133), a rule to prevent inadvertent decomposition from chipping, grinding, and stockpiling (Rule 1133.1), and a rule to reduce VOC and ammonia emissions from composting operations of biosolids and manure (Rule 1133.2). South Coast then adopted a rule in 2006 to address odors from transfer stations and material recovery facilities (Rule 410). Lastly, in 2011, Rule 1133.1 was amended, and a new rule was adopted to reduce fugitive VOC and ammonia emissions from green waste composting operations (Rule 1133.3).

In 2007, San Joaquin adopted a rule to address VOC emissions from operations involving co-composting and management of biosolids, animal manure, and poultry litter (Rule 4565), and then in 2011, adopted a rule to limit VOC emissions from organic material composting (Rule 4566).

[1] Air District Rule 2: Permits, Rule 6: Major Facility Review, Section 2-6-212.

In May of 2019, Ventura County Air Pollution Control District held a public consultation meeting to introduce regulatory concepts for proposed new Rule 74.32: Compostable Material Handling and Conversion Operations. This draft rule is intended to reduce VOC and other emissions associated with the handling and processing of organic materials to produce beneficial products such as mulch, compost and renewable energy. Draft rule language has not been published, but the rulemaking is focused on regulating composting and associated processes.

3. State Regulations

At the State level, CalRecycle has regulatory authority over organic material handling and composting operations as provided in Title 14, Division 7 of the Public Resources Code. Permitting, minimum standards, and reporting requirements ensure that facilities employ adequate pathogen reduction and odor impact minimization methods. Enforcement and permit compliance are administered by Local Enforcement Agencies such as County Health Departments. Pursuant to California Health and Safety Code section 41705, odors emanating from composting operations are exempt from the Air District's authority to enforce prohibition of public nuisance otherwise allowed pursuant to Health and Safety Code section 41700. Composting facilities are also subject to general waste discharge requirements of the California State Water Resources Control Board.

There are no statewide air quality regulations governing emissions from these operations other than those that address combustion emissions from equipment used on site. The Portable Diesel Engine Airborne Toxic Control Measure (adopted by the California Air Resources Board in 2004) applies to engines typically used to power screening, chipping and grinding operations. The California Air Resources Board also requires portable equipment registration for some equipment that is periodically operated at multiple material handling facilities. Combustion emissions from equipment operated at these facilities is not the scope of this present rule development effort.

4. Federal Regulations

Other than Title V operating permit requirements discussed above, there are no substantive federal air quality regulations that address these facilities. Further, there are no new source performance standards or national emissions standards for hazardous air pollutants that would apply to composting operations or non-road engines typically used in composting operations.

5. Other Air District Rule Development Efforts

The Air District is developing Regulation 13, Rule 2, the Air concurrently with development of Regulation 13, Rule 3: Composting Operations, in order to minimize emissions of methane and VOCs from facilities that actively compost organic material, and with development of Regulation 13, Rule 4: Sewage Treatment Plants and Anaerobic Digesters, in order to minimize emissions of greenhouse gasses and VOCs from anaerobic digesters and sewage treatment plants. These proposed draft rules would implement portions of the 2017 Clean Air Plan and are intended to create a consistent regulatory framework for these operations. In addition, the Air District is developing amendments to Regulation 8, Rule 34: Solid Waste Disposal Sites, in order to better address emissions of methane and non-methane VOCs from solid waste disposal facilities and to improve compliance and permitting for these facilities.

III. TECHNICAL REVIEW

A. Emissions

Detailed emissions characterization of organic material handling and composting operations is incomplete at this time. While there were several studies conducted to determine emissions of VOC, ammonia, and climate change pollutants from composting operations, these studies yielded widely varying results. The Air District formed an Organics Emissions Estimation Task Force composed of staff from multiple Divisions within the agency to better characterize emissions from the organic recovery sector. This systematic effort will assess the Air District's current knowledge of organic material recovery operations, identify the agency programs that require and those that lack emissions data from this sector, and identify solutions through measurements, modeling, surveys and calculation methods to improve the Air District's emissions inventory.

1. Emissions Characterization and Emissions Factors

Several studies were conducted to determine emissions of VOC and ammonia from composting operations, with the South Coast Air Quality Management District, the San Joaquin Valley Air Pollution Control District, and the California Air Resources Board producing emission factor reports for VOC and ammonia emissions from composting operations that process green material (vegetative material generated from gardening, landscaping or agriculture) containing less than 15 percent by weight of food material, manure or biosolids.[f, g, h] Included in these reports are VOC and ammonia emission factor estimations for stockpiles of green material. The California Air Resources Board also analyzed methane emissions from composting operations in an effort to determine methods of estimating greenhouse gas emissions reductions from the diversion of organic waste from landfills to compost facilities.[i] The development of emission factors for compost mixtures containing larger percentages of non-green material is under development with many studies underway. As more material is diverted from landfills through household organic material collection, more food material enters the composting feedstock, and this will provide more opportunities for source testing.

Emissions from organic material handling operations are not particularly well understood, nor have emission factors been well established; however, the perception of offsite odors and reporting of complaints has been well documented in the Air District and other jurisdictions. The previously mentioned composting emission factor reports examined VOC and ammonia emissions from the overall composting process of green material, with emission factors for stockpiling of feedstock, active phase composting, and curing phase composting. The emission factors for stockpiling of organic material prior to the start of active composting can serve as a reasonable default value to estimate emissions from organic material handling operations.

2. Current Air District Emissions Inventory

As noted above, the Air District formed an organic emissions estimation taskforce comprised of staff from multiple divisions within the Air District to better characterize emissions from organic recovery operations. In previous Air District emissions inventories, the emissions from organic material handling operations that would be subject to the draft Rule are not differentiated from those from the waste sector. Emissions from composting operations are separated out and these may serve to indicate the scale of emissions from this sector, as shown in Table 1.

Table 1
Overall Emissions from Composting and Related Activities

Composting Operations	VOC Emissions (tons per year)	Methane Emissions (tons per year)
Base Year 2011[j]	1.5	0.2
Base Year 2015	< 4.2	< 8.0

Emissions of VOCs and methane from facilities processing organic material upstream of composting operations are likely to account for less than 10 percent of these totals based on the limited amount of time that the organic material is in process at those facilities. This increase in the methane value is most likely the result of refinement of the accepted emission factor. The amount of organic material processed in the Air District has likely increased since 2015, but it is difficult to provide an estimate of how District-wide emissions have been affected. Emissions from composting operations represent only a small fraction of the current Air District methane inventory, but emissions from landfills account for just over half of all methane emissions in the Air District. The Air District is developing draft Rule 13-2 to help ensure that the organic diversion mandates do not result in redistribution of emissions, but rather a reduction in overall methane emissions.

B. Emission Control Methods

Emissions from organic material handling operations and the methods to control them are largely determined by the type of organic material processed, as well as the heterogeneity of the organic material mixtures processed. More stable material is generally less odorous and the potential for uncontrolled decomposition during processing is limited, as long as the processing is efficient and expeditious. This type of material tends to have a high carbon to nitrogen ratio, is too dry, or is of a sufficiently dense structure or consistency to limit aerobic decomposition. Examples include wood, paper, or non-decomposable material (i.e. recyclable materials like glass or metal) with very little organic material content. Normally, management of this type of material results in less emissions and, therefore, requires less emissions control than mixed materials with greater organic content. More putrescible materials such as food material, manure, biosolids, and some types of green material often tend to be odorous and though dense enough to limit aeration, may contain enough moisture to encourage anaerobic decomposition. In general, most handling operations involve a mixture of materials that feature a spectrum of gradations from stable to putrescible.

Organic material handling that operations process more stable materials typically rely on water spray to suppress particulate emissions; as a resultant, VOC and methane emissions are also minimized as a side benefit. When more putrescible materials are received at these facilities, they may be covered with more stable material or with a solid or flexible cover. Careful monitoring of residence times ensure that decomposition of this material is minimized. When handling less stable material, partial enclosures may be utilized to slow windborne migration of odors along with overhead misting systems of water or odor suppressant fluid. Baffles and partial curtains may also help to contain emissions.

Complete enclosures are utilized when putrescible organic material is separated from solid waste, recyclable material, or other complex waste streams. Transfer stations and material recovery facilities processing mixed material are usually contained within an enclosure that minimizes exposure to outside air through high speed doors, curtains, baffles and air flow systems that

maintain a negative pressure at all openings. In some cases, air flow systems are designed to ensure near complete capture of emissions from the enclosure vented to control devices such as baghouses (for particulate), biofilters (for methane and VOCs) and in some cases iron sponge or other scrubbers for control of sulfurous compounds. Misting with water or odor suppressants is also often utilized at openings to enclosures or at the perimeter of operational facilities.

Biofilters are pollution control devices that use living material to capture and biologically degrade air pollutants. Air flows through a packed bed and pollutants transfer into a thin biofilm on the surface of the packing material (usually shredded wood, compost, or other high carbon content organic material). Microorganisms such as bacteria and fungi are immobilized in the film and degrade the pollutant. These devices are particularly efficacious in treating odorous compounds and water-soluble VOCs. The same processes evident in a packed bed biofilter can be utilized by spreading the packing material across a surface provided the moisture content in the material is maintained and it is thick enough to ensure capture within the biofilm.

IV. DRAFT RULE

A. Purpose

Draft Rule 13-2 is being developed to ensure that emissions of VOC (including odorous compounds) and methane are minimized during organic material handling operations at transfer stations, MRFs and chipping and grinding operations. The draft Rule would strive to ensure the consistent employment of BMPS at both existing facilities as well as facilities expanded or constructed in the future to accommodate increases in organic material processing as a result of State mandated diversion goals. The draft Rule would provide consistency in compliance and permitting of all affected facilities handling and processing organic material and would aid in the gathering of information about these operations. The draft Rule would also contain a reporting requirement designed to enable Air District staff to gather information about these facilities and continue to evaluate BMPs and other means to minimize excess emissions of methane and VOCs, including odor-causing compounds.

B. Applicability

Draft Rule 13-2 would apply to operations at transfer stations, MRFs, and chipping and grinding operations related to handling, storing, and transfers of organic material. Organic material handling at composting facilities (draft Rule 13-3), anaerobic digesters or wastewater treatment facilities (draft Rule 13-4), and solid waste disposal sites (draft amendments to Rule 8-34) will be addressed in future rule development efforts specific to those operations.

C. Exemptions

The requirements of draft Rule 13-2 are intended to apply to facilities handling organic materials or mixed streams containing organic materials in quantities sufficient to potentially cause excess emissions or cause odor impacts. Facilities handling materials segregated through a curbside collection program or fully source separated for the purpose of recycling do not generally process significant amounts of organic material and for this reason, these facilities do not generally require a solid waste facility permit from CalRecycle. Section 13-2-103 exempts recycling facilities that solely accept material containing less than one percent putrescible materials and produces no

more than ten percent solid waste residual at the end of processing. These criteria are based on the three-part test developed by CalRecycle to determine if a facility requires a solid waste facility permit from that state agency. Section 13-2-104 exempts facilities that process material in amounts that would not ordinarily require an Air District permit. Facilities seeking this exemption would be required to petition and receive approval by the Air District under the provisions of Section 13-2-406f and renew this petition on an annual basis. The Air District's Regulation 2, Permits: Rule 1, General Requirements includes permit exemptions for solid waste transfer stations processing less than 50 tons per day (§ 2-1-121.18) and composting and other similar facilities handling less than 500 tons per year (§ 2-1-113.1.2). Section 13-2-105 exempts facilities that handle exclusively green material containing less than 1 percent by weight putrescible material from the enclosure requirements of Section 13-2-301.

D. Definitions

Definitions are provided to clarify exemptions, standards and administrative requirements including monitoring, recordkeeping, and facility summary reporting. In response to public comments received after publication of draft Rule 13-2 in May of 2019, definitions were adjusted where possible to better match those found in Title 14, Division 7 of the California Code of Regulations (the current CalRecycle regulations pertaining to nonhazardous waste management in California). 'Handling' refers to those activities that pertain to organic materials. It includes a broad array of operations, including transfer, storage, and any manipulation of organic material including such as screening, chipping and grinding, tipping, sorting, and debagging. Handling activities related to active phase and curing phase composting will be covered by subsequent rule development of draft Rule 13-3, Composting Operations. Definitions are provided for the various types of organic material, including biosolids, digestate, food material, green material, manure, and putrescible material, which is a class of organic material likely to decompose rapidly, causing odors, vector attraction, or other offensive conditions. Where possible, terms are stated to provide consistency with the California Code of Regulations to prevent duplicative recordkeeping and reporting to that required as a result of SB 1383; however, CalRecycle has yet to finalize the form of these regulations. A final version of these regulations is expected in the beginning of 2020.

For the purposes of this draft Rule, new (§ 13-2-221) facilities are defined as those with a complete application on file with the Air District permit to begin operation after the date of adoption of the draft Rule with a material throughput of more than 150,000 tons per year. For the purposes of this rule, modified facilities (§ 13-2-219) are defined as those with a complete application on file with the Air District after the adoption date for a modification in permitted throughput incrementally more than 50,000 tons per year, or cumulatively more than 150,000 tons per year. These definitions are worded this way to prevent facilities from avoiding the imposition of more stringent enclosure requirements in the standards section that would go into effect three years after the adoption date.

E. Standards

Draft Rule 13-2 would address emissions impacts from organic material handling, storage, and stockpiling by requiring a mixture of emissions control standards and utilization of operational and processing requirements that the regulated industries deemed to be BMPs and that were shown to minimize emissions of VOCs and methane. These BMPs are drawn from regulations adopted by the San Joaquin Valley Air Pollution Control District and the South Coast Air Quality Management District, along with emissions studies funded or compiled by CalRecycle and the California Air Resources Board.

1. Section 13-2-301: Organic Material Handling Requirements

The owner or operator of transfer stations and MRFs processing more than 150,000 tons per year of green material, food material, municipal solid waste, or mixture thereof are required to implement processes and practices as described above as BMPs. This annual throughput corresponds to a facility processing material at 10 times the permit exemption level of 50 tons per day, 300 operating days a year. The draft Rule would require owners or operators of existing MRFs and transfer stations to install an enclosure to act as a wind barrier with an overhead misting system, and to engage in periodic scraping or sweeping of material handling areas. The draft Rule would require owners and operators of new and modified transfer stations and MRFs to conduct organic material handling operations within the confines of an enclosure that is designed to minimize the amount of air entering the enclosure by requiring and establishing the total surface area of the openings be less than 5 percent of the total enclosure. The enclosure must have a ventilation system that includes negative air pressure at the openings and that captures and directs the interior air to a biofilter or other control device that achieves 80 percent by weight reduction of VOC and methane emissions. Proportional limitation of total surface area of openings and maintenance of negative pressure differential across openings greater than 10 feet cross sectional area are drawn from the United States Environmental Protection Agency (US EPA) method 204 and modified for this application. Test methods to monitor pressure differential and to determine control efficiencies are both included in the manual of procedures section of the draft Rule.

2. Section 13-2-302: Storage and Stockpiling Requirements

The draft Rule imposes on owners or operators of transfer stations, MRFs, and chipping and grinding operations, time limits to process green and putrescible materials. An owner or operator must process green material within three operating days of receipt. An owner or operator must process putrescible material within two operating days of its receipt. In addition, for putrescible material stored overnight, that owner must implement certain storage practices that may include properly covering the stockpile or storing the stockpile in an enclosure that meets the requirements for storage at new or modified MRFs and transfer stations (Rule 13-2-301.2).

F. Administrative Requirements

The draft Rule requires the owner or operator of a facility that conducts organic material handling and storage and stockpiling to submit a Facility Summary Report that details control measures, equipment and procedures, including BMPs, to minimize methane and VOC emissions. The Facility Summary Report would provide facility information, technical data, including a process flow diagram and facility layout or floorplan, and a breakdown of material processed at the facility. The owner or operator submitting a Facility Summary Report may designate as confidential any information claimed to be exempt from public disclosure as trade secret or by any other provisions of law. Submittal of the initial Facility Summary Report is due within six months of adoption of the draft Rule and must be reviewed and updated every two years to account for changes in operations.

G. Monitoring and Records

The owner or operator of any facility subject to the draft Rule would be required to monitor and record all parameters necessary to demonstrate compliance with the provisions set forth in the standards section of draft Rule 13-2. This would include a breakdown of throughput, records of

cleaning, methods of covering of putrescible materials and other parameters directly related to control equipment efficiency. New and modified facilities subject to the enclosure requirements of Section 13-2-301.2 would be required to monitor and record daily the pressure differential across all openings greater than 10 square feet in cross-sectional area. These records may also aid in review and updating of the Facility Summary Report as required in the administrate requirement section of the draft Rule. Facilities seeking an exemption from the control standards based on low throughput (§ 13-2-104) must keep daily records to ensure that they qualify for that limited exemption.

H. Manual of Procedures

Draft Rule 13-2 contains test methods for determining compliance with requirements of the draft Rule. The methods for determining VOC concentration, methane concentrations, capture efficiency and biofilter control efficiency are based on US EPA methodology and South Coast Air Quality Management District methodology.

V. RULE DEVELOPMENT / PUBLIC PARTICIPATION PROCESS

As part of its Methane Emissions Expert Panel Series, Air District staff reached out to regulatory, community, and industry experts of the organic recovery sector. In November of 2017, staff met with representatives from State and local agencies, members of the composting and wastewater treatment industry, along with academic researchers to discuss current trends in the fields of composting and anaerobic digestion. It soon became clear these two subjects merited individual focus, and staff made plans to hold additional expert panel sessions for composting and anaerobic digestion separate from one another. Staff held a second Expert Panel on June 14, 2018 titled Composting, Part II in order to allow facility operators to provide their perspective. Presentation topics included Composting and Air Emissions, Designing and Siting Composting Facilities, along with a panel discussion on operating composting facilities provided by composting facility operators as well as other panel speakers from the industry and regulatory community.

Air District staff held a regional convening on the Organics Recovery Strategy on June 25, 2018 to provide a holistic examination of the organic material diversion and recovery and the Air District's efforts to minimize excess emissions from these processes. This meeting provided an early opportunity to solicit feedback into organic material handling and composting rule development efforts.

At a series of Climate Pollutant public workshops held in early November 2018, Air District staff presented a concept paper for draft Rules 13-2: Organic Material Handling Operations and 13-3: Composting Operations, along with a workshop presentation for draft Rule 13-1: Significant Methane Releases, a concept paper on Regulation 13: Climate Pollutants and updates on development efforts for new draft Rule 13-4: Sewage Treatment and Anaerobic Digestion, and amendments to Rule 8-34: Solid Waste Disposal Sites. Workshops were held in San Francisco, Martinez, Dublin and San Jose. In March of 2019, Air District staff decided to combine Rules 13-2 and 13-3 into a single rule, draft Rule 13-2.

Air District Staff posted draft regulatory language and a workshop report to the Air District website on June 6, 2019 and presented these documents at a series of public workshops in San Francisco on June 13th, Richmond on June 18th, and in Milpitas on June 19th. Staff accepted public comments through an extended comment period ending on July 12th. Over 75 comment letters

were submitted by email, with nearly all comments coming from members of the affected industries.

Air District staff organized three industry-focused stakeholder meetings in August 2019 to explore the concerns raised and to solicit more detailed information from those who submitted comments. At the first meeting, operators of material recovery facilities and transfer stations were invited to the Bay Area Metro Center, and on two subsequent occasions, Air District staff met with wastewater treatment and anaerobic digester operators and then separately with composting facility operators. In all, over 50 industry representatives attended these stakeholder meetings along with representatives from CalRecycle and Air District staff from Rule Development, Planning & Climate Protection, Engineering, and Compliance & Enforcement.

Air District staff received extensive comment from the affected industry, municipal partners, and organic recovery advocates asking for further engagement on these rules. Rule Development staff considered comments received and made appropriate adjustments to the development of the rule, most notably the bifurcation of the rule into draft Rules 13-2: Organic Material Handling Operations, and 13-3: Composting Operations. Air District staff will continue to engage the public and affected industry through expanded outreach efforts over the course of a revised rule development schedule. The present Request for Comments Report and revised draft Rule are the first step in that process.

Air District staff visited 20 facilities (six material handling facilities, ten composting facilities, and four anaerobic digestion facilities) at locations in eight of the nine counties that make up the Air District. Staff visited organic material handling facilities processing green material, mixed streams of recyclables, as well as mixed solid waste at locations in Alameda, Napa, San Mateo, San Francisco, and Santa Clara Counties. Staff toured composting facilities operating static piles, windrows, and covered aerated static pile systems, at locations in Alameda, Marin, Napa, San Francisco, Santa Clara and Solano Counties. In addition, staff visited anaerobic digestion facilities in Alameda and San Mateo counties. Staff met with facility personnel and toured their operations to better understand the industry and examine up-close their efforts to minimize emissions from these operations.

VI. CONCLUSIONS / RECOMMENDATIONS

Air District staff developed draft Rule 13-2 to minimize emissions of methane and VOCs, including odor causing compounds from transfer stations, MRFs, and chipping and grinding operations that handle organic material, and for consistency in compliance, enforcement, and permitting of all facilities handling and processing organic material. The State mandated diversion of organic material from landfills will result in an increase in compost production in the Air District along with increases in organic material handling. Air District staff developed this draft Rule 13-2 to encourage efficient processing of organic material to minimize decomposition in order to ensure that the methane emitted from landfills is not diverted to composting operations. This report is intended to describe to background to and provisions of this draft Rule. Staff seeks the public review of, and comment on, this draft Rule to inform Air District staff as it prepares the final proposed rule for Air District Board of Directors' consideration in the second quarter of 2020.

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