

Rule 2.46 – ORGANIC WASTE COMPOSTING OPERATIONS

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of volatile organic compounds (VOC) from composting operations.
- 102 **APPLICABILITY:** On and after sixty days following the effective date of U.S. EPA final determination that one or both of the conditions described in Clean Air Act Sections 172(c)(9) or 182(c)(9) have occurred in the Sacramento Federal Ozone Nonattainment Area regarding the Ozone National Ambient Air Quality Standard promulgated by U.S. EPA on March 12, 2008 or October 1, 2015, this Rule applies to composting operations that compost and/or stockpile organic waste.
- 103 **EXEMPTIONS:** The provisions of this rule, except for Section 503, Burden of Proof, shall not apply to the following:
- 103.1 Any composting operation permitted for a total throughput of less than 100,000 wet tons per year of organic waste.

200 DEFINITIONS

- 201 **ACTIVE COMPOST:** Material that is in the process of being rapidly decomposed and is biologically unstable. Active compost generates temperatures of at least 122 degrees Fahrenheit during decomposition.
- 202 **ACTIVE PHASE:** The phase of the composting process that begins when organic wastes are mixed or piled together for composting and ends when any of the following conditions is met:
- 202.1 The organic waste has been composted for a period of 22 consecutive days;
- 202.2 The organic waste respiration rate is no more than 20 milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry using the TMECC Method 05-08-A – Specific Oxygen Uptake Rate (April 7, 2002);
- 202.3 The organic waste emits no more than seven (7) mg carbon dioxide per gram of organic waste (CO₂-C) per day, as measured using the TMECC Method 05-08-B – Carbon Dioxide Evolution Rate (April 7, 2002); or
- 202.4 The organic waste has a Solvita[®] Maturity Index of five (5) or greater as measured using the TMECC Method 05-08-E – Solvita[®] Maturity Test (April 7, 2002).

- 203 **ANIMAL MANURE:** Animal manures are the solid, semisolid, and liquid by-products generated by animals grown to produce meat, milk, eggs, and other agricultural products for human use and consumption. They are mixtures of animal feces, urine, bedding materials (e.g., straw, sawdust, rice hulls), and other materials associated with animal production, such as waste feed, soil, wash waters, and any chemical or physical amendments used during manure handling and storage.
- 204 **BASELINE EMISSION FACTORS:** The uncontrolled, site-specific emission factors for greenwaste composting operations based on source testing conducted according to Section 601.
- 205 **COMPOST OVERS:** The oversized woody materials that do not decompose in a typical composting cycle and are screened out of finished product at the end of composting. Composting overs have been through a pathogen reduction process outlined in Title 14, Section 17868.3 of the California Code of Regulations.
- 206 **COMPOSTABLE MATERIAL:** Organic waste that is capable of undergoing the composting process.
- 207 **COMPOSTING:** A process in which solid organic waste materials are decomposed in the presence of oxygen through the action of bacteria and other microorganisms.
- 208 **COMPOSTING OPERATION:** Composting, screening, chipping and grinding, and storage activities related to the production of compost from organic materials or chipped and ground organic materials at a facility that is required to obtain a District permit pursuant to District Rule 3.1, General Permit Requirements.
- 209 **CURING PHASE:** The phase of the composting process that begins immediately after the active phase and ends when any of the following conditions is met:
- 209.1 The organic waste has cured for a period of 40 consecutive days;
- 209.2 The organic waste respiration rate is no more than 10 milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry using the TMECC Method 05-08-A – SOUR: Specific Oxygen Uptake Rate (April 7, 2002);
- 209.3 The organic waste emits no more than four (4) mg CO₂-C per gram of organic waste per day, as measured using the TMECC Method 05-08-B – Carbon Dioxide Evolution Rate (April 7, 2002); or

- 209.4 The organic waste has a Solvita® Maturity Index of seven (7) or greater, as measured using the TMECC Method 05-08-E – Solvita® Maturity Test (April 7, 2002).
- 210 **FINISHED COMPOST:** A humus-like material and/or composting overs that have completed both the active phase and curing phase of composting.
- 211 **FOODWASTE:** Any pre- or post-consumer food scraps collected from the food service industry, grocery stores, or residential food scrap collection. Foodwaste also includes food scraps that are chipped and ground.
- 212 **GREENWASTE:** Any organic waste material generated from gardening, agriculture, or landscaping activities including, but not limited to, grass clippings, leaves, tree and shrub trimmings, and plant remains.
- 213 **GREENWASTE COMPOSTING:** Composting of greenwaste and/or chipped and ground woodwaste or a mixture of up to either: 20 percent animal manure or 10 percent foodwaste, measured on a per pile weight basis.
- 214 **LOCAL ENFORCEMENT AGENCY:** The local agency with authority to enforce state laws pertaining to the storage, processing, and disposal of solid waste, including permitting and enforcement for composting operations.
- 215 **ORGANIC WASTE:** Any organic waste material that includes foodwaste, greenwaste, woodwaste, or animal manure, or a mixture thereof.
- 216 **PILE:** Compostable material that is heaped together.
- 217 **SOLVITA MATURITY INDEX:** An index that defines the stage where compost exhibits resistance to further decomposition, in accordance with the TMECC Method 05- 08-E – Solvita® Maturity Test (April 7, 2002).
- 218 **STOCKPILE:** Organic waste, which may or may not be chipped or ground, that is temporarily stored in a pile for further processing.
- 219 **THROUGHPUT:** The weight of organic waste to be processed, as it is received or generated at a facility, prior to dewatering or treatment at the receiving location. Throughput includes the weight of moisture present in the organic waste at the time it is received at the facility.
- 220 **TMECC:** Test Methods for the Examination of Composting and Compost published by the U.S. Composting Council Research and Education Foundation.

221 **WOODWASTE:** Lumber and the woody material portion of mixed demolition and construction wastes. Woodwaste also includes large wood materials of curbside greenwaste or mixed greenwaste that is screened or unscreened, such as tree trimmings, branches, tree trunks, stumps, and limbs exceeding two inches in any dimension.

300 STANDARDS

301 STOCKPILE REQUIREMENTS

301.1 An operator of a composting operation shall comply with one of the following within three (3) days of receipt of organic waste (with the exception of foodwaste) at the facility:

301.1.1 Remove the organic waste from the facility;

301.1.2 Start the active phase of composting;

301.2 An operator must use foodwaste for on-site composting within 24 hours of receipt or cover foodwaste with screened or unscreened finished compost until used, unless otherwise required by the Local Enforcement Agency.

302 **GREENWASTE COMPOSTING REQUIREMENTS:** An operator of greenwaste composting operations shall comply with the following requirements:

302.1 Cover each active phase pile with screened or unscreened finished compost within twenty-four hours of initial pile formation such that the top is at least six inches thick for the following time period, whichever is sooner: a) until the pile reaches temperatures associated with active compost or b) 7 days.

302.2 For the first fifteen days after initial pile formation for the active phase period of composting, within six hours before turning, apply water as necessary to the surface area of each active phase pile such that the top one half of the pile is wet at a depth of at least three inches, as determined by the squeeze ball test in Section 603. Alternatively, the operator may apply water during turning using a windrow turner which is equipped with water spraying technology during the entire windrow turning process.

302.3 If a rain event occurs prior to watering the pile within six hours before turning and the pile is wet to a depth of three inches, the operator may turn the pile without adding additional water. If the top half of the pile is dry to the three-inch depth, apply additional water to the pile pursuant to subparagraph 302.2.

302.4 If the pile needs to be turned prior to the seven days after initial pile formation for pathogen reduction pursuant to Title 14 Division 7, Chapter 3.1, Section 17868.3 of the California Code of Regulations, the operator does not need to re-apply the screened or unscreened finished compost cover and shall apply water pursuant to subparagraph 302.2 for the first fifteen days of the active phase.

302.5 An operator of a greenwaste composting operation may choose to comply with the requirements of Section 303 in lieu of the requirements in Section 302.

303 **ALL OTHER COMPOSTING REQUIREMENTS:** Operators of all other composting operations must comply with the following requirements:

303.1 Active phase composting shall be conducted using an emission control device designed and operated with an overall system control efficiency of at least 80 percent, by weight, for VOC emissions compared to baseline emission factors.

304 **SOURCE TESTING REQUIREMENTS:** The overall control efficiency required in subparagraph 303.1 shall be demonstrated by a source test within three months after implementation of the emission control device every two years thereafter. For the purpose of this rule, the baseline emission factors shall be based on source test data that is approved by the APCO, provided that the organic waste and mixtures of waste is representative of normal operations.

305 **EMISSION CONTROL DEVICES:** All emission control devices shall be installed, operated, and maintained in accordance with the manufacturer's operation and maintenance manual or other similar written materials supplied by the manufacturer or distributor of such equipment to ensure that the system remains in proper operating conditions. Such documentation shall be made available to the APCO upon request.

400 ADMINISTRATIVE REQUIREMENTS

401 **COMPLIANCE SCHEDULE:**

401.1 Within 90 days of the rule becoming applicable per Section 102, operators of a composting operation subject to the standards of this rule shall submit a complete Authority to Construct application proposing modification to the composting operation that complies with all applicable requirements of this rule.

401.2 Within one year the rule becoming applicable per Section 102, operators of a composting operation subject to the stockpile requirements shall be in full compliance with all stockpile requirements.

401.3 Within one year of the rule becoming applicable per Section 102, operators of a composting operation subject to the composting requirements shall be in full compliance with all composting requirements.

500 REPORTING AND RECORDKEEPING

501 RECORDKEEPING:

501.1 Stockpiles: The owner/operator of a composting operation subject to the stockpiling requirements in Section 301 shall maintain records of the date at which each stockpile was initially formed, the date and action taken on each stockpile to satisfy the stockpile requirements, and other information necessary to determine compliance with the requirements.

501.2 Watering systems: The owner/operator of a composting operation subject to the greenwaste composting requirements in Section 302 shall maintain records of the date and time the organic waste from the windrow was tested for compliance pursuant to subparagraph 302.2, indicate whether the windrow passes the squeeze ball test in Section 603 and, if applicable, all corrective actions taken, record the date and time the windrow was turned, and record other information necessary to determine compliance with the requirements.

501.3 Finished compost cover: The owner/operator of a composting operation subject to the greenwaste composting requirements in Section 302 shall maintain records of the date and time each windrow was initially formed for the active phase and the time when finished compost cover, which satisfied the minimum six inches finished compost cover requirement, was applied to each windrow, the date and time each windrow was turned during the active phase and the time when finished compost cover, which satisfied the minimum six inches finished compost cover requirement, was applied to each windrow, and other information necessary to determine compliance with the requirements.

502 **THROUGHPUT RECORDS:** The owner/operator of a composting operation subject to this rule shall maintain daily records of the date the organic waste arrives on site, the type of organic waste received on site, and the weight (in wet tons) of each type of organic waste received on site.

503 **BURDEN OF PROOF:** An owner/operator claiming exemption pursuant to Section 103 shall record all of the following information on a quarterly basis:

503.1 The amount (in wet tons) and type of organic waste received on site; and

503.2 Other information necessary to determine compliance with the requirements.

504 **RECORD RETENTION:** All records required by this Rule shall be maintained on-site for a period of five (5) years and made available to the APCO upon request.

505 **FEDERAL REPORTING:** By March 31 of each year, the owner/operator of an affected composting operation shall submit all records required by this rule for the previous calendar year. Records must be submitted to the U.S. EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through U.S. EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov>), or analogous electronic submission system provided by U.S. EPA.

600 TEST METHODS

601 **GENERAL:** For a composting operation subject to Section 303, the operator shall conduct all required source and laboratory tests using a District-approved laboratory in accordance with an APCO-approved test protocol.

602 **COMPOST MATURITY/STABILITY:** An operator shall use one of the following test methods, as provided by TMECC, to test compost maturity and stability. Triplicate samples shall be taken.

602.1 TMECC 05.08-A – Specific Oxygen Uptake Rate (April 7, 2002).

602.2 TMECC Method 05-08-B – Carbon Dioxide Evolution Rate (April 7, 2002).

602.3 TMECC 05.08-E – Solvita Maturity Index (April 7, 2002).

603 **SQUEEZE BALL TEST:** The squeeze ball test shall be conducted by taking a sample of the compostable material from the top half of the pile, at least three inches below the outer surface. The material should be squeezed into a ball using hand pressure and wearing a protective glove. There should be at least enough water to form a ball when compressed, but the ball may break when tapped. If the ball crumbles upon release of the hand pressure, apply additional water to the windrow prior to turning until the material passes the ball test.

604 **ALTERNATIVE TEST METHODS:** An operator may use an alternative test method to satisfy Section 602 for which a written approval from the APCO and U.S. EPA have been obtained.