

Rule 1133

Composting and Related Operations

(A) General

(1) Purpose

(a) The purpose of this rule is to:

- (i) Limit emissions of volatile organic compounds (VOC) and ammonia from Composting and related operations.
- (ii) Prevent inadvertent decomposition occurring during Chipping and Grinding operations; and
- (iii) Create an emissions-related informational database on Composting and related operations through administrative requirements as part of a Composting registration program.

(2) Applicability

(a) This rule applies to new and existing Chipping and Grinding activities, and new and existing Composting and related operations.

(3) Exemptions

(a) The provisions of section (C)(1) of this rule shall not apply to the following facilities and/or operations:

- (i) Portable Chipping and Grinding;
- (ii) Agricultural Composting;
- (iii) Nursery Composting;
- (iv) Recreational Facilities Composting;
- (v) Backyard Composting;
- (vi) Woodwaste Chipping and Grinding facilities;
- (vii) Greenwaste derived from the site and used on-site; and
- (viii) Emergency operations performed in response to a state- or federally- declared emergency.

(b) The provisions of sections (C)(2)(a)(ii), (C)(2)(a)(iii), (C)(2)(a)(iv), and (C)(2)(a)(v) of this rule shall not apply to the following:

- (i) Chipping and Grinding activities of Greenwaste derived from the site and used on-site;
- (ii) Portable Chipping and Grinding;
- (iii) Agricultural Chipping and Grinding;
- (iv) Landclearing Chipping and Grinding;
- (v) Woodwaste Chipping and Grinding;
- (vi) Palm Chipping and Grinding activities; and

- (vii) Emergency operations performed in response to a state- or federally- declared emergency.
- (c) The provisions of section (C)(2)(a) of this rule shall not apply to chipped and ground curbside waste provided the moisture content of such waste is less than thirty percent (30%) measured in accordance with section (E)(1) and the moisture content measurements are maintained on-site in accordance with section (C)(2)(b)(v).
- (d) The provisions of section (C)(3) of this rule shall not apply to Co-Composting Operations with a design capacity of less than 1,000 tons Throughput per year.

(B) Definitions

For purposes of this rule, the following definitions shall apply:

- (1) Active Compost – Compost Feedstock that is in the process of being rapidly decomposed and is unstable. Active Composting lasts until one of the following conditions is met:
 - (a) Product respiration rate is above 10 milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry.
 - (b) The organic material emits no more than seven (7) mg carbon dioxide per gram of organic material per day as measured using test method in section (E)(3)(a).
 - (c) The material has a Solvita Maturity Index of five (5) or greater as measured using the test method in section (E)(3)(b).
 - (d) The material has been Composted for a period of at least 22 consecutive days.
- (2) Agricultural Composting – Composting conducted in agricultural settings where the Feedstock consists of wastes generated on-site by the production and processing of farm or agricultural products to be used on-site.
- (3) Air Pollution Control Officer (APCO) – The person appointed to the position of Air Pollution Control Officer of the District pursuant to the provisions of California Health and Safety Code §40750, and his or her designee.
- (4) Backyard Composting – Composting conducted by a household, including but not limited to, single family residences, duplexes or apartment buildings, generated on-site to be used on-site.

- (5) Best Management Practice – A best management practice is a technique or methodology that, through experience and research, has proven to reliably lead to a desired result. Composting best management practices are Composting parameters that minimize emissions by promoting aerobic Composting conditions.
- (6) Biosolids – Solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids includes, but is not limited to, treated domestic septage and scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Biosolids does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during the preliminary treatment of domestic sewage in a treatment works.
- (7) Bulking Agent – Additives or amendments mixed with Feedstock in order to adjust the moisture level, carbon to nitrogen ratio, or porosity to create a favorable condition.
- (8) Calendar Days – Any days of the year, excluding official federal and state holidays.
- (9) California Air Resources Board (CARB) – The California State Air Resources Board the powers and duties of which are described in Part 2 of Division 26 of the California Health & Safety Code (commencing with section 39500).
- (10) California Integrated Waste Management Board (CIWMB) – The California Integrated Waste Management Board the powers and duties of which are primarily described in Chapter 3 of Part 1 of Division 30 of the California Public Resources Code. (commencing with section 40400).
- (11) Chipping and Grinding – Activity that mechanically reduces the size of Greenwaste, Woodwaste, and/or Foodwaste.
- (12) Compost – The product resulting from the controlled biological decomposition of biological materials.
- (13) Composting – Process in which solid organic waste materials are decomposed in the presence of oxygen under controlled conditions through the action of bacteria and other microorganisms.
- (14) Compostable Material – Any organic material that when accumulated will become Active Compost as defined in section (B)(1).
- (15) Composting Operations – Facilities involved in Composting organic materials including, but not limited to, Greenwaste, Biosolids, Manure and Foodwaste.
- (16) Co-Composting – Composting where Biosolids and/or Manure are mixed with Bulking Agents to produce Compost. Co-Composting involves both the active and curing phase.

- (17) Curbside Greenwaste – Greenwaste that is collected from receptacles designated for residential household Greenwaste. Curbside Greenwaste also includes screened Curbside Greenwaste containing only grass clippings, leaves, and/or twigs that is not considered Greenwaste in (B)(24).
- (18) Curing Compost – The phase of the Co-Composting process that begins immediately after the end of the active phase of Composting. Curing Composting lasts until one of the following conditions is met:
- (a) Product respiration rate is below 10 milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry.
 - (b) Emits no more than four (4) mg CO₂-C per gram of organic material per day, as measured using the test method in section (E)(3)(a).
 - (c) The Compost has a Solvita Maturity Index of 7 or greater, as measured using the test method in section (E)(3)(b); or
 - (d) The material has been Composted at least 40 consecutive Calendar Days after the Active Composting phase.
- (19) District – The Mojave Desert Air Quality Management District, the geographical area of which is described in District Rule 103.
- (20) Facility – A portion of real property that is on one or more contiguous or adjacent properties, all of which are under common ownership or control.
- (21) Feedstock – Any Compostable organic material used in the production of Compost or chipped and ground material including, but not limited to, agricultural material, Greenwaste, Foodwaste, Biosolids, and mixed solid waste. Feedstocks shall not be considered as Bulking Agents.
- (22) Finished Compost – A humus-like material that meets at least one of the following conditions:
- (a) Emits no more than four (4) mg CO₂-C per gram of organic material per day, as measured using the test method in section (E)(3)(a).
 - (b) Has a Solvita Maturity Index of 7 or greater, as measured using the test method in section (E)(3)(b).
 - (c) Has completed both the active and curing phases of Composting.
- (23) Foodwaste – Any food scraps collected from the food service industry, grocery stores, or residential food scrap collection. Foodwaste mixed with Greenwaste is considered Foodwaste.
- (24) Greenwaste – 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.

- (25) Local Enforcement Agency (LEA) – The local agency designated as the enforcement agency by the CIWMB pursuant to Article 1 of Chapter 2 of Part 4 of Division 30 of the California Public Resources Code (commencing with section 43200).
- (26) Manure – Accumulated herbivore or avian excrement which includes feces, urine, any bedding material, spilled feed, or soil that is mixed with feces or urine.
- (27) Mixed Greenwaste – Curbside Greenwaste that is mixed with Non-Curbside Greenwaste.
- (28) Non-Curbside Greenwaste – Greenwaste that is not collected from receptacles designed for residential household Greenwaste. Curbside Greenwaste or Mixed Greenwaste that is screened and contains only large woody material (larger than 3 inches in any dimension) such as tree trimmings and branches is also considered to be Non-Curbside Greenwaste.
- (29) Nursery Composting – Composting conducted at a nursery using Feedstock generated on-site to produce Compost for on-site use.
- (30) Operator – Any person who owns, leases, supervises, or operates a Facility that processes Compost or Co-Compost, or equipment on such a Facility.
- (31) Palm Chipping and Grinding – Any activity that mechanically reduces the size of palm tree waste.
- (32) Portable Chipping and Grinding Operation – Chipping and Grinding equipment operating under a state or local portable permit or otherwise exempt from permitting.
- (33) Pile – Compost material that is heaped together.
- (34) Rainy Day – Any day with at least 0.05 inches of rain reported by the National Weather Service or a cooperative weather reporting station for the site closest to where the Chipping and Grinding activity occurs.
- (35) Recreational Facilities Composting – Composting conducted at parks, arboretums and other recreational facilities using Feedstock generated on-site to produce Compost for on-site use.
- (36) Solvita Maturity Index – An index that defines the stage where Compost exhibits resistance to further decompositions, as tested by the Solvita Maturity Test.
- (37) Throughput – The mass of Biosolids, Manure, or Greenwaste in tons per year as received by the Facility and processed through Composting excluding recycled materials.
- (38) Tipping Fees – Money or other financial benefits received by a Facility, owner, or Operator in exchange for the Facility, owner, or Operator accepting Greenwaste, Biosolids, animal Manure, or poultry litter.

- (39) TMECC – Test Methods for the Examination of Compost and Composting by the US Composting Council Research and Education Foundation.
- (40) United States Environmental Protection Agency (USEPA) – Refers to the Administrator or the appropriate designee of the United States Environmental Protection Agency.
- (41) Volatile Organic Compound (VOC) – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and those compounds listed in 40 CFR 51.100(s)(1).
- (42) Wet Weather Conditions – Weather conditions following a Rainy Day not to exceed 10 days.
- (43) Woodwaste – Lumber and the woody material portion of mixed demolition wastes and mixed construction wastes.

(C) Requirements

- (1) General Administrative Requirements:
 - (a) Any person engaged in Chipping and Grinding and Composting Operations shall:
 - (i) No later than 60 days after rule adoption, Operators of any existing Chipping and Grinding activities and Composting Operations shall register with the District by submitting complete and applicable information required in accordance with section (C)(1)(b) of this rule.
 - (ii) Prior to start of operation, Operators of new Chipping and Grinding activities and Composting Operations shall register with the District by submitting complete and applicable information required in accordance with section (C)(1)(b) of this rule.
 - (iii) No later than July 1 of every year thereafter, Operators of Chipping and Grinding activities and Composting Operations registered with the District shall update their registration information by providing any changes to the information submitted in accordance with section (C)(1)(b) of this rule.
 - (b) The registration and annual update shall at a minimum include the following information:
 - (i) Facility name;
 - (ii) Facility location address and mailing address;
 - (iii) Facility legal owner(s), contact person, title, telephone number, and mailing address;
 - (iv) Facility Operator(s), contact person, title, telephone number, and mailing address;
 - (v) Number of employees at the Facility;

- (vi) Applicable California Integrated Waste Management Board's permit number;
- (vii) Type and amount of materials received and type and amount of products produced for the preceding year;
- (viii) Facility design capacity (Throughput) in tons per year;
- (ix) Facility actual Throughput in tons per month for the preceding calendar year. For new facilities, projected Throughput must be provided;
- (x) Feedstock description;
- (xi) Facility process description including, process diagram and a description of Chipping and Grinding operations and Compost methods used (if applicable);
- (xii) Published tipping fee schedule for the preceding calendar year by Feedstock; and
- (xiii) Number of air-quality related enforcement actions issued in writing against the Facility by the Local Enforcement Agency and the California Integrated Waste Management Board for the preceding year.

(2) Chipping and Grinding Operation Requirements:

- (a) Any person engaged in a chipping or grinding activity shall:
 - (i) Remove Foodwaste from the site or use Foodwaste for on-site Composting within two Calendar Days of receipt.
 - (ii) Chip or grind, or use on-site, or remove Curbside Greenwaste from the site within three Calendar Days.
 - (iii) Chip or grind, or remove Non-Curbside Greenwaste from the site within 14 Calendar Days of receipt.
 - (iv) Chip or grind, or use on-site, or remove Mixed Greenwaste from the site within seven Calendar Days of receipt.
 - (v) Remove chipped or ground Curbside Greenwaste from the site or use chipped or ground Curbside Greenwaste on-site within three Calendar Days of being chipped and ground.
- (b) Any person engaged in a chipping or grinding activity shall maintain the following records:
 - (i) A copy of the Facility's District registration and annual updates submitted in compliance with section (C)(1).
 - (ii) Records of date, type, and amount of Greenwaste and/or Foodwaste received; and
 - (iii) Records of date, type, and amount of Greenwaste and or Foodwaste removed from the site, and location where they were transferred to.
 - (iv) Records of dates of Rainy Days and Wet Weather Conditions and description of specific conditions that limited normal operations.
 - (v) Records of moisture content measurements as determined in section (E)(4)(b).

- (vi) Records of dates and amount of Curbside Greenwaste chipped and ground.
 - (c) The time requirements in sections may be extended by the number of Rainy Days and Wet Weather Conditions that impede normal Chipping and Grinding operations providing that records are maintained in accordance with section (C)(2)(b).
- (3) Co-Composting Operations General Process Controls (Best Management Practices) Requirements:
- (a) Any person engaged in Co-Composting operations shall:
 - (i) Scrape or sweep, at least once a day, all areas where Compostable Material is mixed, screened, or stored such that no Compostable Material greater than one inch (1”) in height is visible in the areas scraped or swept immediately after scraping or sweeping, except for Compostable Material in process Piles or storage Piles; and
 - (ii) Establish initial carbon to nitrogen ratio of not less than 20:1 in Active Compost Piles by testing the material when it is prepared for Active Composting using the test method in section (E)(4)(c). Testing shall be done on the day the materials are mixed and be representative of the initial composition of each new Active Compost Pile; and
 - (iii) Maintain moisture content between 40 percent to 70 percent and test daily in Active Piles and monthly in Curing Piles, or Cover Active and Curing Piles within three hours of turning with one of the following:
 - a. A waterproof covering; or
 - b. At least six inches (6”) of Finished Compost; or
 - c. At least six inches (6”) of soil.
 - (iv) Maintain pH below 8.0 and test monthly in active and curing Piles; and
 - (v) Adequately mix incoming Feedstock so that moisture and nutrients are maintained in proper proportions in all parts of the Composting Piles.
 - (b) Maintain daily records of materials receipt, discharge, and operational activities sufficient to verify the requirements of (C)(3)(a), and on a daily basis, the operator shall record the quantity of materials received that would be used for the Compost or Co-Compost operation. These materials include, but are not limited to, material that may be recovered from the composting process for re-use in another batch of Compostable Material, Biosolids, Manure, and Greenwaste.
 - (c) If a tested parameter is found to be outside applicable limits specified in section (C)(3)(a)(ii), (C)(3)(a)(iii), or (C)(3)(a)(iv), the Operator shall take remedial action within 24 hours of discovery to bring Pile characteristics within the specified limits.

(4) Contingency Measure

- (a) The requirements of this section only apply if USEPA makes a finding, as evidenced by publication in the Federal Register, that the District (or portion thereof) has been designated as a non-attainment area for the PM_{2.5} National Ambient Air Quality Standard.
- (b) Any Composting operation accepting more than 100,000 wet tons of Compostable Material per year shall be equipped with capture and control equipment achieving a minimum 80 percent (by weight) overall control efficiency for VOC and ammonia.

(D) Monitoring and Records

- (1) The operator shall, at a minimum, maintain operations records for a period of at least five years, and make them available to the APCO upon request.

(E) Compliance Procedures and Test Methods

- (1) Measurements of Piles and Windrows shall be determined by collecting at least 10 samples from various locations of the Pile or Windrow at a depth of at least 12 inches below the Pile or Windrow surface.
- (2) Samples shall be mixed thoroughly and analyzed for moisture content by ASTM method D4442, ASTM method D4444, or ASTM method E871-82.
- (3) Compost Maturity/Stability Test Methods
 - (a) TMECC Method 05-08-B (Carbon Dioxide Evolution Rate); or
 - (b) TMECC Method 05-08 E (Solvita Maturity Test[®])
- (4) Best Management Practices Test Methods
 - (a) Oxygen Concentration – TMECC Method 05.08-C (In-Situ Oxygen Refresh Rate)
 - (b) Moisture Content – TMECC Method 03.09-A (Total Solids and Moisture at 70±5 degrees Centigrade)
 - (c) Carbon to Nitrogen Ration – TMECC Method 05.02-A (Carbon to Nitrogen Ratio)
 - (d) pH – TMECC Method 04.11-A
- (5) Contingency Measure Test Methods
 - (a) VOC – USEPA Method 18 and USEPA Method 25, or equivalent.

- (b) Ammonia – South Coast Air Quality Management District Method 207.1 – Determination of Ammonia Emissions from Stationary Sources, or equivalent.
- (6) Alternative Compliance Methods
 - (a) Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with any provisions of this rule may also be used after review and approval in writing by the APCO and CARB.

(F) Violations

- (1) Failure to comply with any provision of this Rule shall constitute a violation of the Rule.
- (2) A violation of the limits contained in this Rule as determined by any one of these test methods shall constitute a violation of this Rule.
- (3) When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

[SIP: Not SIP.]