

RULE 4566 ORGANIC MATERIAL COMPOSTING OPERATIONS (Adopted August 18, 2011)

1.0 Purpose

The purpose of this rule is to limit emissions of volatile organic compounds (VOC) from composting operations.

2.0 Applicability

The provisions of this rule apply to composting facilities that compost and/or stockpile organic material.

3.0 Definitions

3.1 Active Phase: the phase of the composting process that begins when organic materials are mixed or piled together for composting and ends when any of the following conditions is met:

3.1.1 The organic material has been composted for a period of 22 consecutive days;

3.1.2 The organic material 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);

3.1.3 The organic material emits no more than seven (7) mg carbon dioxide per gram of organic material (CO₂-C) per day, as measured using the TMECC Method 05-08-B – Carbon Dioxide Evolution Rate (April 7, 2002); or

3.1.4 The organic material 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).

3.2 Agricultural Composting: composting of agricultural materials at an agricultural operation site, which were generated on site and will be used on site.

3.3 Agricultural Material: vegetative materials that are produced wholly from agricultural operations; the operation or maintenance of a system for the delivery of water in agricultural operations; or material not produced wholly from agricultural operations, but that are essential to agricultural operations.

- 3.4 Agricultural Operations: operations primarily involved with the growing, harvesting, and packing of crops; the raising of fowl or animals for the primary purpose of earning a living; or conducting agricultural research or instruction by an educational institution.
- 3.5 Air Pollution Control Officer (APCO): the Air Pollution Control Officer of the San Joaquin Valley Unified Air Pollution Control District.
- 3.6 Alternative Mitigation Measure: a mitigation measure proposed by an operator, as a means of complying with the rule requirements, that is determined by the APCO to achieve VOC reductions that are equal to or greater than the VOC reductions that would be achieved by other mitigation measures listed in this rule.
- 3.7 Animal Manure: non-human animal excretions and waste, including, but not limited to, solids and urine from cows, cattle, or swine.
- 3.8 Biosolids: organic material resulting from the treatment of sewage sludge or wastewater.
- 3.9 Community Composting: composting conducted by a residential neighborhood association using feedstock generated within the residential neighborhood to produce compost for the neighborhood's use.
- 3.10 Compost: a product resulting from the biological decomposition of organic material.
- 3.11 Compostable Material: organic material that is capable of undergoing the composting process.
- 3.12 Composting: a process in which solid organic waste materials are decomposed in the presence of oxygen through the action of bacteria and other microorganisms.
- 3.13 Composting Facility: a facility that is required to obtain a District permit for composting operations in accordance with Rule 2010 (Permits Required) which are not specifically exempt pursuant to Rule 2020 (Exemptions) or a Compostable Materials Handling Facility Permit in accordance with Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 2, Section 17857.1.
- 3.14 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 composting facility.

- 3.15 Contiguous or Adjacent Property: a property consisting of two or more parcels of land with a common point or boundary, or separated solely by a public roadway or other public right-of-way.
- 3.16 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:
 - 3.16.1 The organic material has been composted for a period of 40 consecutive days after the active phase;
 - 3.16.2 The organic material 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);
 - 3.16.3 The organic material emits no more than four (4) mg CO₂-C per gram of organic material per day, as measured using the TMECC Method 05-08-B – Carbon Dioxide Evolution Rate (April 7, 2002); or
 - 3.16.4 The organic material 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).
- 3.17 Day: a continuous twenty-four hour period beginning at 12:00 A.M.
- 3.18 District: the San Joaquin Valley Unified Air Pollution Control District including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties, and the San Joaquin Valley Air Basin portion of Kern County.
- 3.19 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.
- 3.20 Finished Compost: a humus-like material that has completed both the active phase and curing phase of composting.
- 3.21 Finished Compost Cover: pre-screened finished compost, or a mixture of screened finished compost or overs, that is applied to a windrow or pile as a cover to reduce VOC emissions.
- 3.22 Food Material: food scraps collected from the food processing industry, food service industry, grocery stores, or residential food scrap collection. Food material also includes food material that is chipped or ground.

- 3.23 Green Material: vegetative material generated from gardening, agriculture, or landscaping activities including, but not limited to, a mixture of grass clippings, leaves, tree and shrub trimmings, and plant remains.
- 3.24 Household Composting: composting conducted by a household, including but not limited to, single family residences, duplexes or apartment buildings, using organic materials that are generated on site to produce compost that will be used on site.
- 3.25 Independent Watering System: a system connected to a water source that uniformly applies water by means of nozzles operated under pressure and may include, but is not limited to, portable sprinkler system, non-portable sprinkler system, or water truck.
- 3.26 Integrated Watering System: a system connected to a water source that uniformly applies water by means of nozzles operated under pressure which are installed in front of or simultaneously with the mechanical turner blades.
- 3.27 Mitigation Measure: an activity, work practice, or technology that reduces VOC air pollutants emitted by or associated with the processing of organic material.
- 3.28 Nursery Composting: composting conducted at a plant nursery using materials generated on site to produce compost for on-site use.
- 3.29 Operator: a person who owns, leases, supervises, or operates a composting facility that conducts a composting operation on site.
- 3.30 Organic Material: food material, green material, or a mixture thereof, and may include wood material and a total of less than 100 wet tons per year of biosolids, animal manure, or poultry litter.
- 3.31 Overs: the oversized woody materials that have been through pathogen reduction, do not decompose in a typical composting cycle, and are screened out of finished product at the end of composting.
- 3.32 Pathogen Reduction: a process conducted entirely or in part to reduce the number of disease-causing organisms present in organic material in accordance with Title 14 Chapter 3.1 Division 7 Section 17868 of the California Code of Regulations.
- 3.33 Peak: the highest point along the ridge of the windrow.
- 3.34 Pile: compostable material that is heaped together.

- 3.35 Poultry Litter: poultry excretions and waste, including, but not limited to, dried solids and urine from chickens, turkeys, geese, or ducks.
- 3.36 Process: the conversion of the organic material into a beneficial material or use.
- 3.37 Rain Event: for the purpose of this rule, precipitation at a composting facility.
- 3.38 Recreational Facilities Composting: composting conducted at parks, arboretums and other recreational facilities using feedstock generated on site to produce compost for on-site use.
- 3.39 Ridge: the narrow upper section of a windrow with sloping sides.
- 3.40 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).
- 3.41 Stockpile: organic material, which may or may not be chipped or ground, that is temporarily stored in a pile for further processing.
- 3.42 Test Methods for the Examination of Composting and Compost (TMECC): test methods for the examination of composting and compost by the US Composting Council Research and Education Foundation.
- 3.43 Throughput: the weight of organic material 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 material at the time it is received at the facility.
- 3.44 US Environmental Protection Agency (EPA): the United States Environmental Protection Agency or any person authorized to act on its behalf.
- 3.45 Vertical Midpoint: the point that divides the peak of the windrow from the bottom of the windrow.
- 3.46 Volatile Organic Compounds (VOC): as defined in Rule 1020 (Definitions).
- 3.47 Windrow: organic material that is placed in an elongated pile for composting.
- 3.48 Wood material: untreated lumber and the woody-material portion of mixed-demolition wastes and mixed-construction wastes. Wood material also includes overs, and the woody material portion of trees. Wood material or wood material chips to which other organic material has been added are not considered to be wood material.

3.49 Year: a continuous, 12-month period beginning on January 1 and ending on December 31.

4.0 Exemptions

4.1 Stockpiling of Organic Material

4.1.1 Facilities that stockpile organic material on site and are not considered to be a composting facility are exempt from all requirements of this rule.

4.1.2 Stockpiles used for composting operations that are subject to Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations) and have organic material and biosolids, animal manure, or poultry litter on site are exempt from all stockpile requirements of this rule for the materials associated with those operations. Stockpiles destined for composting operations not subject to Rule 4565 are not exempted under this section.

4.1.3 The following materials are exempt from all requirements of this rule, provided that the material is not mixed with other types of organic materials and operators maintain records, as required by Section 6.3.1. For the purpose of this exemption, the throughput received or generated from any of the materials below shall not be added to or subtracted from the total throughput for composting operations.

4.1.3.1 Wood material, including wood material that is separated from organic material prior to complying with the stockpile requirements in Section 5.1;

4.1.3.2 Finished Compost;

4.1.3.3 Overs; and

4.1.3.4 Organic material that is specifically stockpiled on site for operations other than composting, provided that an operator is not intentionally conducting pathogen reduction on the organic material at the facility. Other operations include, but are not limited to, animal feed or nutritional products.

4.2 Composting Operations

4.2.1 The following composting operations are exempt from all requirements of this rule:

4.2.1.1 Composting operations that are subject to Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations) are exempt from all requirements of this rule. Facilities with multiple types of composting operations are subject to the applicable requirements of Rule 4566 only for those composting operations not subject to Rule 4565 requirements;

4.2.1.2 Agricultural composting;

4.2.1.3 Community composting;

4.2.1.4 Household composting;

4.2.1.5 Nursery composting; and

4.2.1.6 Recreational facilities composting.

4.3 The following facilities are exempt from all requirements of this rule:

4.3.1 Facilities subject to Rule 4204 (Cotton Gins) and cotton ginning facilities that are specifically exempt from Rule 4204;

4.3.2 Agricultural operations subject to Rule 4550 (Conservation Management Practices) and agricultural operations that are specifically exempt from Rule 4550; and

4.3.3 Facilities subject to Rule 4570 (Confined Animal Facilities) and facilities that are specifically exempt from Rule 4570.

5.0 Requirements

5.1 Stockpile Requirements

5.1.1 An operator of a composting operation with a total throughput of less than 100,000 wet tons per year of organic material shall comply with one of the following within ten (10) days of receipt of the organic material at the facility:

5.1.1.1 Remove the organic material from the facility;

5.1.1.2 Start the active phase of composting;

- 5.1.1.3 Cover the organic material with a waterproof cover that have at least a six-feet (6') overlap of adjacent sheets and be securely anchored; or
 - 5.1.1.4 Implement an APCO approved alternative mitigation measure, not listed above.
- 5.1.2 An operator of a composting operation with a total annual throughput of greater than or equal to 100,000 wet tons per year of organic material shall comply with one of the following within three (3) days of receipt of the organic material at the facility:
- 5.1.2.1 Remove the organic material from the facility;
 - 5.1.2.2 Start the active phase of composting;
 - 5.1.2.3 Cover the organic material with a waterproof cover that have at least a six-feet (6') overlap of adjacent sheets and be securely anchored; or
 - 5.1.2.4 Implement an APCO approved alternative mitigation measure, not listed above.

5.2 Composting Requirements

- 5.2.1 An operator of a composting operation with a total throughput of less than 200,000 wet tons per year of organic material shall comply with Section 5.2.1.1 or Section 5.2.1.2 during the active phase of composting.
- 5.2.1.1 For windrow composting only, implement at least three turns during the active-phase and one of the mitigation measures for the Watering Systems in Table 1.
 - 5.2.1.2 Implement an APCO and EPA approved alternative mitigation measure that demonstrates at least a 19% reduction, by weight, in VOC emissions.
- 5.2.2 An operator of a composting operation with a total throughput of greater than or equal to 200,000 wet tons per year and less than 750,000 wet tons per year of organic material shall comply with Section 5.2.2.1 or Section 5.2.2.2 during the active phase of composting.

5.2.2.1 For windrow composting only, implement all of the following:

5.2.2.1.1 At least three turns during the active phase;

5.2.2.1.2 One of the mitigation measures for the Watering Systems in Table 1; and

5.2.2.1.3 The Finished Compost Cover mitigation measure.

5.2.2.2 Implement an APCO and EPA approved alternative mitigation measure that demonstrates at least 60% reduction, by weight, in VOC emissions.

Table 1 – Composting Mitigation Measures

Watering Systems	
1	<p>Independent watering system</p> <p>a. Apply water to the surface area of each windrow prior to turning. Test each windrow within three hours before turning for adequate water by taking a sample of the compostable material from between the vertical midpoint and the peak of the windrow, at least three inches below the outer surface. For the ball test, form the material into a ball using hand pressure. There should be at least enough water to form a ball when compressed by hand, but the ball may break when tapped.</p> <p>b. If the ball crumbles during the hand pressure test, apply additional water to the windrow prior to turning until the material passes the ball test, as described in Section 1.a.</p>
2	<p>Integrated watering system</p> <p>a. For windrows that will be turned on the same day and will require the same water volume, mechanically turn the first windrow while operating the integrated watering system. Within three hours after turning the first windrow, take a sample of the compostable material from between the vertical midpoint and the peak of the windrow, at least three inches below the outer surface. For the ball test, form the material into a ball using hand pressure. There should be at least enough water form a ball when compressed by hand, but the ball may break when tapped.</p> <p>b. If the ball crumbles during the hand pressure test, apply additional water and mechanically turn the same windrow, then retest until the material passes the ball test. Subsequent windrows shall not be turned until the initial windrow passes the ball test. Utilize the established water volume for the remaining windrows to be turned with the same water volume on the same day. Repeat the methods in Section 2.a. for windrows that will be turned with a different water application rate.</p>
	<ul style="list-style-type: none"> • For either the independent or integrated watering systems, if a rain event occurs prior to turning the windrow, take a sample of the compostable material from between the vertical midpoint and the peak of the windrow within three hours before turning and at least three inches below the outer surface. Form the material into a ball using hand pressure. There should be at least enough water to form a ball when compressed by hand, but the ball may break when tapped. • If the ball crumbles during the hand pressure test, apply additional water to the windrow prior to turning until the material passes the ball test.
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Table 1 – Composting Mitigation Measures (continued)

Finished Compost Cover

An operator shall cover the surface area of at least the top third of each windrow with finished compost cover so that there is at least six inches in height of finished compost cover as measured at the peak of each windrow. An operator shall cover the surface area of each windrow as described within three hours of initial windrow formation and within three hours after each turning of the windrow for at least three turns of each windrow. For any windrows that are mechanically turned after 2:00 pm, an exception to the three hour limit can be made, which allows the operator to cover the surface area of at least the top third of each windrow with finished compost cover by 12:00 pm the following day.

- 5.2.3 An operator of a composting operation with a total throughput of greater than or equal to 750,000 wet tons per year of organic material shall implement an APCO and EPA approved mitigation measure that demonstrates at least 80% reduction, by weight, in VOC emissions for organic material during the active phase.

6.0 Administrative Requirements

6.1 Facility Emission Mitigation Plan

An operator shall submit a Facility Emission Mitigation Plan (FEMP) along with an Authority-to-Construct application, in accordance with Rule 2010 (Permits Required), to incorporate the approved mitigation measures from the facility's FEMP as applicable permit conditions. The FEMP shall contain the following information:

- 6.1.1 The name, business address, and phone number of an operator(s) responsible for the preparation and the implementation of the mitigation measures listed in the mitigation plan;
- 6.1.2 The signature of an operator(s) attesting to the accuracy of the information provided and adherence to implementing the activities specified in the mitigation plan at all times and the date that the application was signed;
- 6.1.3 A list of the mitigation measures chosen from the applicable portions of Section 5.0 to comply with Rule 4566 requirements. In lieu of implementing the listed mitigation measures in Section 5.0, an operator may demonstrate that reductions from composting operations subject to this rule are equal to that which the compliance with those sections would have achieved; and
- 6.1.4 The total throughput, in wet tons per year, of organic material stockpiled and composted.

6.2 Alternative Mitigation Measures Compliance Plan

- 6.2.1 A compliance plan for alternative mitigation measures shall contain the following elements:
 - 6.2.1.1 The name(s), address(es) and telephone number(s) of person(s) responsible for the preparation, submittal, and implementation of the compliance plan;
 - 6.2.1.2 The name, address, and telephone number(s) of the facility for which the compliance plan is being prepared;
 - 6.2.1.3 A description and process diagram of the operation;
 - 6.2.1.4 A complete description of the control method(s) that will be used in place of a listed mitigation method;
 - 6.2.1.5 All data, calculations methodology, calculations, records, manufacturer specifications, and all other information necessary to determine that proposed mitigation measure will achieve the required emission reductions;
 - 6.2.1.6 Methodology and calculations establishing the daily and annual VOC emissions or projected VOC emissions. An operator may use the District's established baseline emission factors or establish operation-specific baseline emission factors. The baseline emission factors used shall be part of the compliance plan submittal. An operator shall demonstrate that the operation-specific baseline emission factors are representative of uncontrolled operations; and
 - 6.2.1.7 An identification of all equipment needing District permits to construct and operate.
- 6.2.2 In evaluating the compliance plan, the APCO may require tests and sampling, as necessary, to determine the adequacy of the compliance plan and the likelihood of compliance with the emission reduction requirements.
- 6.2.3 The APCO may approve operation-specific baseline emissions factors provided the baseline emissions factors are substantiated with source test data that is approved by the APCO and the material and mixtures of material is representative of normal operations.

- 6.2.4 The APCO shall provide interim approval of the compliance plan provided an operator submits all of the information required under Section 6.2.1 and the APCO verifies that, by design, the compliance plan will reduce emissions similar to or greater than listed mitigation measures and requirements.
- 6.2.5 Following the interim approval of the compliance plan, the APCO shall approve the compliance plan provided an operator submits, no later than 180 days after the effective date of compliance, a certification of the compliance report that includes all source test data, and the APCO verifies that the emissions from the mitigation measure and requirements meets the emission reduction limits.
- 6.2.6 The APCO may impose conditions necessary to ensure that the operation complies with the compliance plan and all applicable District rules.
- 6.2.7 The APCO may require an operator to maintain records consistent with the compliance plan necessary to demonstrate compliance with the compliance plan.
- 6.2.8 Compliance with the provision of the approved proposal does not exempt an operator from complying with the requirements of the California Health and Safety Code or other District rules.

6.3 Recordkeeping Requirements

6.3.1 Records for Exempt Organic Materials

An operator claiming exemption pursuant to Section 4.1.3 shall record all of the following information on a quarterly basis:

- 6.3.1.1 The amount (in wet tons) and type of organic material received on site; and
- 6.3.1.2 Other information necessary to determine compliance with the requirements.

6.3.2 Throughput Records

An operator of a composting facility subject to this rule shall maintain an operations log. In the operations log, an operator shall record all of the following information on a daily basis:

- 6.3.2.1 The date the organic material arrives on site;
- 6.3.2.2 The type of organic material received on site; and
- 6.3.2.3 The weight (in wet tons) of each type of organic material received on site.

6.3.3 Stockpile Operations

An operator of a composting facility subject to the stockpile requirements shall maintain an operations log. In the operations log, an operator shall record all of the following information on a daily basis:

- 6.3.3.1 The date of which each stockpile was initially formed;
- 6.3.3.2 The date and action taken on each stockpile to satisfy the stockpile requirements; and
- 6.3.3.3 Other information necessary to determine compliance with the requirements.

6.3.4 Composting Operations

An operator of a composting facility subject to the composting requirements shall maintain an operations log. In the operations log, an operator shall comply with all of the following applicable recordkeeping requirements.

6.3.4.1 Watering Systems

- 6.3.4.1.1 Record the date and time the organic material from the windrow was tested for compliance.
- 6.3.4.1.2 Indicate whether the windrow passes the ball test and, if applicable, all corrective actions taken.
- 6.3.4.1.3 Record the date and time the windrow was turned.
- 6.3.4.1.4 Record other information necessary to determine compliance with the requirements.

6.3.4.2 Finished Compost Cover

6.3.4.2.1 Record 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.

6.3.4.2.2 Record 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.

6.3.4.2.3 Record other information necessary to determine compliance with the requirements.

6.3.4.3 Alternative Mitigation Measure Records

For operators using an approved alternative mitigation measure, an operator shall keep records needed to demonstrate compliance with the specific alternative mitigation measure each day the alternative mitigation measure is performed.

6.3.5 Records Retention

An operator shall retain all applicable records, as specified in this Recordkeeping Requirements section, on site for a period of five (5) years and the records shall be made available to the APCO upon request.

6.4 Test Methods

6.4.1 Compost Maturity/Stability

An operator shall use one of the following test methods, as provided by the Test Methods for the Examination of Composting and Compost (TMECC), to test compost maturity and stability:

6.4.1.1 TMECC Method 05-08-A – Specific Oxygen Uptake Rate (April 7, 2002);

6.4.1.2 TMECC Method 05-08-B – Carbon Dioxide Evolution Rate (April 7, 2002); or

6.4.1.3 TMECC Method 05-08-E – Solvita® Maturity Test (April 7, 2002).

6.4.2 Alternative Test Methods

An operator may use an alternative test method to satisfy rule requirements for which a written approval from the APCO and EPA have been obtained.

6.4.3 Multiple Test Methods

When more than one test method or set of test methods is specified for testing, a violation of a requirement of this rule established by one of the specified test methods or set of test methods shall constitute a violation of this rule.

7.0 Compliance Schedule

7.1 Operators of a composting facility subject to the composting operation requirements of this rule shall submit a complete Facility Emission Mitigation Plan and Authority-to-Construct application that complies with all applicable requirements of this rule by the following dates:

Table 2: Compliance Schedule for Facility Emission Mitigation Plan (FEMP) and Authority-to-Construct (ATC) Application	
Composting Requirements	Compliance Schedule
Watering system requirements or an APCO approved alternative mitigation measure that demonstrates at least 19% reduction, by weight, in VOC emissions.	February 18, 2012
Finished compost cover requirements, along with the watering system requirements. In lieu of complying with both of the finished compost cover and watering system requirements, implement an APCO approved alternative mitigation measure that demonstrates at least 60% reduction, by weight, in VOC emissions.	August 18, 2015
APCO approved mitigation measure that demonstrates at least 80% reduction, by weight, in VOC emissions for organic material during the active phase.	August 18, 2015

7.2 Stockpile Requirements

On and after August 18, 2012, operators of a composting operation subject to the stockpile requirements shall be in full compliance with all stockpile requirements.

7.3 Composting Requirements

7.3.1 On and after August 18, 2012, an operator of a composting operation with a total throughput of less than 200,000 wet tons per year of organic material shall be in full compliance with the applicable Watering Systems requirements or implement an APCO approved alternative mitigation measure that demonstrates at least 19% reduction, by weight, in VOC emissions.

7.3.2 An operator of a composting operation with a total throughput of greater than or equal to 200,000 wet tons per year and less than 750,000 wet tons per year of organic material shall be in compliance with all of the following schedule and composting requirements:

7.3.2.1 On and after August 18, 2012, comply with the applicable Watering Systems requirements or implement an APCO approved alternative mitigation measure that demonstrates at least 19% reduction, by weight, in VOC emissions.

7.3.2.2 On and after August 18, 2016, comply with the Finished Compost Cover requirements in addition to the Watering System requirements. In lieu of complying with both of the finished compost cover and watering system requirements, implement an APCO approved alternative mitigation measure that demonstrates at least 60% reduction, by weight, in VOC emissions.

7.3.3 On and after August 18, 2016, an operator of a composting operation with a total throughput of greater than or equal to 750,000 wet tons per year of organic material shall be in full compliance with an APCO approved mitigation measure that demonstrates at least 80% reduction, by weight, in VOC emissions for organic material during the active phase.