

Yolo-Solano Air Quality Management District  
1947 Galileo Court, Suite 103  
Davis, CA 95618  
(530)757-3650  
www.ysaqmd.org



**YOLO-SOLANO**  
AIR QUALITY MANAGEMENT DISTRICT

**PROPOSED ADOPTION OF  
RULE 2.46, ORGANIC WASTE COMPOSTING OPERATIONS**

DRAFT STAFF REPORT

October 21, 2024

Prepared by: Eden Winniford  
Reviewed by: Paul Hensleigh and Ben Beattie

Table of Contents

Page

I.	EXECUTIVE SUMMARY .....	3
A.	BACKGROUND.....	3
II.	DISCUSSION OF PROPOSED RULE 2.46 .....	4
III.	COMPARISON TO OTHER APPLICABLE REGULATIONS AND REQUIREMENTS.....	5
IV.	IMPACTS OF THE PROPOSED RULE .....	6
V.	ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE.....	9
VI.	REGULATORY FINDINGS.....	10
VII.	PUBLIC COMMENTS AND STAFF RESPONSES .....	10
VIII.	REFERENCES.....	11

ATTACHMENT A	PROPOSED RULE 2.46, ORGANIC WASTE COMPOSTING OPERATIONS; STRIKE-OUT UNDERLINE VERSION
ATTACHMENT B	NOTICE OF EXEMPTION FROM CEQA GUIDELINES
ATTACHMENT C	RESOLUTION NO. 24-11
ATTACHMENT D	WRITTEN COMMENTS RECEIVED

## I. EXECUTIVE SUMMARY

Ozone is a highly reactive gas that is both a natural and a man-made product that occurs in the Earth's upper atmosphere (stratosphere) and lower atmosphere (troposphere). Tropospheric or ground-level ozone is formed primarily from photochemical reactions between two major classes of air pollutants, volatile organic compounds (VOC) and nitrogen oxides (NOx).

The Yolo-Solano Air Quality Management District (District) is the local agency with the primary responsibility for the control of air pollution generated from stationary and area-wide sources in all of Yolo County and northeastern Solano County. The District, El Dorado County Air Quality Management District (EDCAQMD), Feather River Air Quality Management District (FRAQMD), Placer County Air Pollution Control District (PCAPCD), and Sacramento Metropolitan Air Quality Management District (SMAQMD) are located within the Sacramento Federal Nonattainment Area, which is designated as severe nonattainment for the 1997 and 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS). The SFNA is currently designated as serious nonattainment for the 2015 8-hour NAAQS. However, the air districts of the SFNA have requested to voluntarily bump up to a severe nonattainment classification because additional time is needed to meet the standard.

On December 11, 2024, the District Board of Directors will consider the adoption of Rule 2.46, ORGANIC WASTE COMPOSTING OPERATIONS. Rule 2.46 will reduce VOC emissions from composting operations by establishing mitigation measures for stockpiling and active phase composting of organic waste.

The main component(s) being proposed to Rule 2.46 are:

1. 3-day stockpile limit; and
2. Best management practices for active phase greenwaste composting, including covering piles with finished compost and applying water to piles prior to turning; and
3. Requirement to use an emission control device with a control efficiency of at least 80 percent for VOC emissions for all composting except for greenwaste composting.

The proposed rule will not have a significant or detrimental effect on the environment. Therefore, staff prepared a Notice of Exemption to satisfy the requirements of the California Environmental Quality Act (CEQA). The notice states that the revisions to Rule 2.46 are exempt from the requirements of CEQA pursuant to Section 15308, Actions by Regulatory Agencies for Protection of the Environment.

### A. BACKGROUND

#### History

Composting is the natural or controlled aerobic decomposition of organic solid waste materials into a humus-like material commonly called compost. VOCs are emitted from composting operations when feedstock is stockpiled and as a result of the decomposition of organic waste within active phase compost piles. The District is responsible for controlling these emissions and is basing Rule 2.46 on the active phase requirements from South Coast Air Quality Management District (SCAQMD)'s Rule 1133.3 and the stockpiling requirements from San Joaquin Valley Air Pollution Control District (SJVAPCD)'s Rule 4566.

The federal Clean Air Act requires areas that are classified as nonattainment to develop State Implementation Plans (SIPs) that describe how a nonattainment area will attain the NAAQS through strategies that achieve emission reductions. CAA sections 172(c)(9) and 182(c)(9) require nonattainment areas, including ozone nonattainment areas classified as serious or higher, to include contingency measures in their SIPs. To fulfill the contingency measure requirement, the District is proposing to adopt Rule 2.46 to reduce VOC emissions from composting operations to take effect if the SFNA fails to demonstrate attainment of the 2008 or 2015 federal 8-hour ozone standard or fails to meet any applicable milestone associated with the 2015 standard.

Rule 2.46 has provisions that, if triggered, will immediately impose emission control requirements for affected composting operations. The contingency provisions will automatically trigger within 60 days of the U.S. EPA finding that the region failed to attain the 2008 or 2015 federal 8-hour ozone standard by the attainment date, or any applicable milestones associated with the 2015 standard. The SFNA has an attainment year of 2024 for the 2008 8-hour ozone standard and 2032 for the 2015 8-hour ozone standard, and the milestone dates for the 2015 standard are 2026 and 2029.

#### Overview of source category

The affected sources include the following within the District: commercial composting facilities that compost and/or stockpile more than 100,000 wet tons per year of organic waste. This Rule would be applicable to two currently permitted composting operations.

## II. DISCUSSION OF PROPOSED RULE 2.46

The proposed sections in Rule 2.46 are as follows:

### **Section 101 Purpose**

The purpose of this Rule is to limit VOC emissions from composting operations.

### **Section 102 Applicability**

This Rule applies to commercial composting facilities in the District if the U.S. EPA makes a final determination that the SFNA has failed to attain the 8-hour 2008 or 2015 ozone standards, or any milestones associated with the 2015 standard.

### **Section 103 Exemptions**

Composting facilities permitted for a total throughput of less than 100,000 wet tons per year of organic waste are exempt from this Rule.

### **Section 200 Definitions**

The Rule proposes to define a total of 20 terms in order to adequately describe all aspects of the rule and its requirements.

### **Section 301 Stockpile Requirements**

Affected operators will be required to begin the active phase within three days of receipt for organic waste, or 24 hours for foodwaste

### **Section 302 Greenwaste Composting Requirements**

For greenwaste composting, affected operators must cover piles with finished compost and apply

water prior to turning during the active phase.

**Section 303 All Other Composting Requirements**

All other composting must be done using an emission control device with a minimum 80 percent control efficiency for VOC emissions. Greenwaste composting operations may use an emission control device in lieu of covering piles with finished compost and applying water prior to turning.

**Section 304 Source Testing Requirements**

This section includes requirements for the timing and frequency of source testing.

**Section 305 Emission Control Devices**

This section includes requirements for the installation, operation, and maintenance of emission control devices.

**Section 401 Compliance Schedule**

Affected operators have 90 days from when the contingency measure for this Rule is triggered to submit a complete Authority to Construct and one year to fully comply with the stockpiling and composting requirements.

**Section 501 Recordkeeping**

This section includes requirements for recording stockpiling information, watering systems information, composting information, and alternative mitigation measure information.

**Section 502 Throughput Records**

This section includes the requirements for throughput records.

**Section 503 Burden of Proof**

Any operator claiming an exemption from this Rule is required to record the amount and type of organic waste received on site, as well as any other information necessary to determine compliance, on a quarterly basis.

**Section 504 Record Retention**

Records must be retained on-site for at least five years and made available to the APCO upon request.

**Section 600 Test Methods and Calculations**

This section includes requirements for the test methods and procedures to be used to demonstrate compliance with this Rule.

**III. COMPARISON WITH OTHER APPLICABLE REGULATIONS AND REQUIREMENTS**

Health and Safety Code Section 40727.2 requires districts to prepare a written comparative analysis of any new control standard that identifies all existing federal air pollution control requirements, including, but not limited to, emission control standards constituting best available control technology (BACT) that apply to the same equipment or source type as the rule or regulation proposed for adoption or modification by the District.

There is no federal policy or guidance (e.g., EPA Control Techniques, Alternative Control Technology

Guidelines, New Source Performance Standard, National Emission Standard for Hazardous Air Pollutants, or Maximum Achievable Control Technology) describing emission control standards or BACT for organic waste composting.

Table 1. Comparison of Proposed Rule Requirements with Other Air Districts’ Rules

	SCAQMD Rule 1133.3	SJVAPCD Rule 4566	Rule 2.46
Stockpiling Requirements	Use or cover foodwaste within 48 hours of receipt.	Use or cover organic waste within 10 or 3 days, depending on the operation’s throughput.	Use foodwaste within 24 hours and all other organic waste within 3 days of receipt.
Active Phase Requirements	For windrow composting only, implement at least three turns during the active phase and one irrigation mitigation measure, and cover with finished compost if applicable.	Cover piles with finished compost and apply water prior to turning.	For greenwaste composting, cover piles with finished compost and apply water prior to turning.
Emission Control Device	Operators with total throughputs greater than or equal to 750,000 wet tons per year of organic waste must achieve an 80% VOC emission reduction during the active phase.	Operators processing greater than 5,000 tons of foodwaste per year must use an emission control device with a control efficiency of at least 80% during the active phase.	Unless it is a greenwaste composting operation, the active phase must be conducted with an emission control device with a control efficiency of at least 80%.

Bay Area Air Quality Management District determined that BACT for this source category is the use of a covered aerated static pile system, which results in an 80% VOC emission reductions for the active phase.

**All Feasible Measure Requirements:** CH&SC Section 40914 requires each district plan to demonstrate that it includes “every feasible measure.” Districts must adopt the most effective control measures to reduce VOC emissions from the stockpiling of organic waste and the active phase of composting. The emission reduction requirements of the proposed Rule are equivalent to the emissions reduction requirements for stockpiling and active phase composting for similar categories found in SCAQMD’s Rule 1133.3 and SJVAPCD’s Rule 4566. The requirements proposed for the Rule satisfy the all feasible measures requirements.

**IV. IMPACTS OF THE PROPOSED RULE**

Emissions Impacts

The total amount of emission reductions depends on if or when the contingency measure is triggered. Because the contingency measure will include a one-year period for affected operators to become fully compliant, emission reductions will begin in the second year after the measure is

triggered.

The contingency measure will automatically be triggered if EPA finds the SFNA fails to attain the 2008 ozone standard by the attainment year of 2024 or the 2015 ozone standard by the attainment year of 2032, fails to meet reasonable further progress requirements, or fails to meet any applicable milestone. The milestone years in which the contingency measure could be triggered for the 2015 ozone standard are 2026 and 2029.

Table 2 shows the emissions inventory associated with affected composting operations in the District for 2024, the attainment year for the 2008 standard, and 2032, the attainment year for the 2015 standard. The potential estimated emission reductions from the contingency measure commitment if triggered in the attainment years are shown in Table 3 below.

Table 2. Emissions Inventory – Year 2024 and 2032

EIC Codes	Description	VOC/ROG Inventory for Control Measure (ton/day Summer)	
		2024	2032
199- 190- 0010- 0000	190-VOLATILE ORGANIC WASTE DISPOSAL (EVAPORATION)	4.48	3.60
410- 436- 5800- 0000	436-STORAGE PILES	NA	1.99
Total		4.48	5.59

Table 3. Emission Reductions – Year 2024 and 2032

EIC Description	Total VOC Reductions for Control Measure (tpd)	
	2024	2032
Stockpiling Requirements	0.16	0.22
Composting Requirements	0.44	0.60
Total	0.60	0.82

One facility is included in the emission reduction calculations in Table 2. The three-day stockpiling requirement would result in VOC emission reductions of approximately 58 percent for that facility. SCAQMD calculated that the composting requirements will reduce VOC emissions by a minimum of 40 percent. Taking this into consideration, the proposed Rule can achieve an overall VOC emission reduction of approximately 14 percent for this source category if the contingency measure requirements are triggered. The second facility in the District that would be subject to this Rule is not included in the emission reduction calculations in Table 3 because that facility is already implementing controls at a level equivalent to the Rule.

Cost Effectiveness

CH&SC Section 40703 requires the District, in the process of the adoption of any rule or regulation, to consider and make public its findings related to the cost effectiveness of the rule. Cost effectiveness for rulemaking purposes is calculated by dividing the cost of air pollution controls required by the rule by the amount of air pollution reduced.

**Cost to the District:** If the proposed Rule becomes applicable, affected facilities may be required to

retrofit existing units, so staff time may be required to evaluate applications for Authority to Construct and Permit to Operate. However, the time associated with these activities will be billed to the applicant under the requirement of current District rules.

**Cost to Affected Operations:** The proposed Rule will require affected composting operations to implement VOC mitigation measures during the active phase of composting, including covering piles with finished compost and applying water prior to turning, or using an emission control device with an overall control efficiency of at least 80%. The cost impact was analyzed for:

1. Cost for applying water to piles five times during the active phase;
2. Cost for applying a finished compost cover to piles five times during the active phase; and
3. Cost for the installation and operation of an emission control device.

Costs for applying finished compost cover and water to active phase piles were based on SCAMQD’s staff report<sup>1</sup> for Rule 1133.3. The District adjusted the costs to 2024 dollars for inflation, the labor rate to the 2024 California minimum wage, and the water cost to Yolo County’s 2023 water rates for Nonagricultural Service<sup>2</sup>.

Table 4. Summary of Costs to Affected Operations

Throughput (tons/year)	Annual Compliance Cost	Proposed Rule Requirement	Total Annual Costs (\$/year)
100,000	\$110,000.00	Finished compost cover	\$138,418.65
	\$28,418.65	Water irrigation	

The District analyzed cost effectiveness for the composting facility for 2024 and 2032, shown in Table 5.

Table 5. Cost Effectiveness for 2024 and 2032

Mitigation Measures	Cost Effectiveness (\$/ton)	
	2024	2032
Finished compost cover and water combined	\$684.83	\$511.48

### Socioeconomic Impacts

California Health and Safety Code Section 40728.5 (a) requires the District, in the process of the adoption of any rule or regulation, to consider the socioeconomic impact if air quality or emission limits may be significantly affected. However, districts with a population of less than 500,000 persons are exempt from the provisions of Section 40728.5 (a). The District’s population is estimated to be approximately 331,600 and well below the 500,000 person threshold. Therefore, a socioeconomic analysis for this rulemaking is not required.

2 SCAQMD (2011). ‘Agenda NO. 37, Amend Rule 1133.1 – Chipping and Grinding Activities, and Adopt Rule 1133.3 – Emission Reductions from Greenwaste Composting Operations. *SCAQMD Board Meeting, July 8, 2011*. <https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2011/2011-jul8-037.pdf>.

2 Yolo County Flood Control & Water Conservation District. *RATE SCHEDULE (Rules and Regulations as adopted May 2016)*. May 3, 2023. <https://www.ycfwcd.org/documents/Rates20230503.pdf>.



### Incremental Cost Effectiveness

CH&SC Section 40920.6 requires an assessment of the incremental cost-effectiveness for proposed regulations relative to ozone, Carbon Monoxide (CO), Sulfur Oxides (SOx), Nitrogen Oxides (NOx), and their precursors. Incremental cost-effectiveness is defined as the difference in control costs divided by the difference in emission reductions between two potential control options that can achieve the same emission reduction goal of a regulation.

In evaluating the incremental cost-effectiveness of an emission control device with an overall system efficiency of at least 80%, Staff reviewed the analysis performed by SCAQMD during the adoption of Rule 1133.3. SCAQMD conducted an incremental cost-effectiveness analysis for an operation with 50,000 tons throughput per year using a control device with an overall efficiency of 80% control and a lifetime of 10 years. SCAQMD concluded that the incremental cost-effectiveness would be \$6,600 per additional ton of VOC reduced in 2011 dollars (\$9,243 in 2024 dollars).

## **V. ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE**

California Public Resource Code Section 21159 requires the District to perform an environmental analysis of the reasonably foreseeable methods of compliance. The analysis must include the following information:

1. An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.
2. An analysis of the reasonably foreseeable mitigation measures.
3. An analysis of the reasonably foreseeable alternative means of compliance with the rule or regulation.

Affected operators are expected to comply with the proposed Rule by implementing operational best management practices or by installing an emission control device. No negative environmental impacts are expected to occur as a result of this Rule. The proposed Rule will have neither a significant nor detrimental effect on the environment or humans due to unusual circumstances. In addition, the proposed Rule is considered to be an action taken to maintain and protect the environment. Therefore, staff has determined that the project is categorically exempt from the requirements of the California Environmental Quality Act (CEQA) pursuant to Section 15308, Actions by Regulatory Agencies for Protection of the Environment. Staff prepared a Notice of Exemption (NOE) to meet the CEQA Guidelines (Attachment B).

## **VI. REGULATORY FINDINGS**

Section 40727(a) of the California Health & Safety Code (H&SC) requires that prior to adopting or amending a rule or regulation, an air district's board make findings of necessity, authority, clarity, consistency, nonduplication, and reference. The findings must be based on the following:

1. Information presented in the District's written analysis, prepared pursuant to H&SC Section 40727.2;

2. Information contained in the rulemaking records pursuant to H&SC Section 40728; and
3. Relevant information presented at the Board’s hearing for adoption of the rule.

The required findings are:

Necessity: It is necessary for the District to adopt this Rule in order to implement a contingency measure for the SFNA SIP for the reductions of VOCs to achieve attainment with the 2008 and 2015 federal 8-hour ozone standards and to fulfill the District’s requirements to implement “every feasible measure” as required under California Health and Safety Code Sections 40919 and 40914.

Authority: The District is authorized to adopt rules and regulations by California Health and Safety Code, Sections 40001, 40702, 40716, 41010 and 41013. [H&SC Section 40727 (b)(2)]

Clarity: The proposed rule is written so that the meaning can be easily understood by the persons directly affected by it. In addition, the record contains no evidence that the persons directly affected by the rule cannot understand the rule. [H&SC Section 40727(b)(3)]

Consistency: The proposed rule does not conflict with and is not contradictory to, existing statutes, court decisions, or state or federal regulations. [H&SC Section 40727(b)(4)]

Non-Duplication: The proposed rule does not duplicate any state laws or regulations, regarding the attainment and maintenance of state and federal air quality limits. [H&SC Section 40727(b)(5)]

Reference: The District must refer to any statute, court decision, or other provision of law that the District implements, interprets, or makes specific by adopting, amending or repealing the rule. [H&SC Section 40727(b)(6)]

## VII. PUBLIC COMMENTS AND STAFF RESPONSES

Staff will hold a public workshop on October 29, 2024, to discuss the proposed Rule 2.46. Notification will be sent to surrounding Air Districts, City Managers within the District, building/planning/community development departments within the YSAQMD, all city and county libraries within the District, all Board members, and all affected sources. The workshop notice will be published in the Vacaville Reporter, Woodland Democrat, and the Davis Enterprise.

A copy of the public workshop notice, the draft staff report, and draft rule language, will be posted on the District’s web page prior to the public workshop.

## VIII. REFERENCES

<sup>1</sup> SCAQMD (2011). *Agenda NO. 37, Amend Rule 1133.1 – Chipping and Grinding Activities, and Adopt Rule 1133.3 – Emission Reductions from Greenwaste Composting Operations*. SCAQMD Board Meeting, July 8, 2011. <https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2011/2011-jul8-037.pdf>.

<sup>2</sup> Yolo County Flood Control & Water Conservation District. *RATE SCHEDULE (Rules and Regulations as adopted May 2016)*. May 3, 2023. <https://www.yfcwcd.org/documents/Rates20230503.pdf>.

**ATTACHMENT A**

**PROPOSED RULE 2.46, ORGANIC WASTE COMPOSTING OPERATIONS  
STRIKE-OUT UNDERLINE VERSION**

**Rule 2.46 ORGANIC WASTE COMPOSTING OPERATIONS**

ADOPTED December 11, 2024

**INDEX**

**100 GENERAL**

- 101 PURPOSE
- 102 APPLICABILITY
- 103 EXEMPTIONS

**200 DEFINITIONS**

- 201 ACTIVE COMPOST
- 202 ACTIVE PHASE
- 203 ANIMAL MANURE
- 204 BASELINE EMISSION FACTORS
- 205 COMPOSTABLE MATERIAL
- 206 COMPOSTING
- 207 COMPOSTING OPERATION
- 208 CURING PHASE
- 209 FINISHED COMPOST
- 210 FOODWASTE
- 211 GREENWASTE
- 212 GREENWASTE COMPOSTING
- 213 LOCAL ENFORCEMENT AGENCY
- 214 ORGANIC WASTE
- 215 PILE
- 216 SOLVITA MATURITY INDEX
- 217 STOCKPILE
- 218 THROUGHPUT
- 219 TMECC
- 220 WOODWASTE

**300 STANDARDS**

- 301 STOCKPILE REQUIREMENTS
- 302 GREENWASTE COMPOSTING REQUIREMENTS
- 303 ALL OTHER COMPOSTING REQUIREMENTS
- 304 SOURCE TESTING REQUIREMENTS
- 305 EMISSION CONTROL DEVICES

**400 ADMINISTRATIVE REQUIREMENTS**

- 401 COMPLIANCE SCHEDULE

**500 REPORTING AND RECORDS**

- 501 RECORDKEEPING
- 502 THROUGHPUT RECORDS
- 503 BURDEN OF PROOF

504 RECORD RETENTION

**600 TEST METHODS**

601 GENERAL

602 COMPOST MATURITY/STABILITY

603 SQUEEZE BALL TEST

604 ALTERNATIVE TEST METHODS

## 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 facilities 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 (CO<sub>2</sub>-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, APCO-approved, site-specific emission factors for greenwaste composting operations.
- 205 **COMPOSTABLE MATERIAL:** Organic waste that is capable of undergoing the composting process.
- 206 **COMPOSTING:** A process in which solid organic waste materials are decomposed in the presence of oxygen through the action of bacteria and other microorganisms.
- 207 **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.
- 208 **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:
- 208.1 The organic waste has cured for a period of 40 consecutive days;
- 208.2 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);
- 208.3 The organic waste emits no more than four (4) mg CO<sub>2</sub>-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
- 208.4 The organic waste has a Solvita<sup>®</sup> Maturity Index of seven (7) or greater, as measured using the TMECC Method 05-08-E – Solvita<sup>®</sup> Maturity Test (April 7, 2002).
- 209 **FINISHED COMPOST:** A humus-like material that has completed both the active phase and curing phase of composting.

- 210 **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.
- 211 **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.
- 212 **GREENWASTE COMPOSTING:** Composting of greenwaste and/or chipped and ground woodwaste or a mixture with up to 20 percent animal manure or 10 percent foodwaste, measured on a per pile weight basis.
- 213 **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 facilities.
- 214 **ORGANIC WASTE:** Any organic waste material that includes foodwaste, greenwaste, woodwaste, or animal manure, or a mixture thereof.
- 215 **PILE:** Compostable material that is heaped together.
- 216 **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).
- 217 **STOCKPILE:** Organic waste, which may or may not be chipped or ground, that is temporarily stored in a pile for further processing.
- 218 **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.
- 219 **TMECC:** Test Methods for the Examination of Composting and Compost published by the U.S. Composting Council Research and Education Foundation.
- 220 **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 REQUIRMENTS: 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:

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

506.2 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.

## 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 have been obtained.

**ATTACHMENT B**

**NOTICE OF EXEMPTION FROM CEQA GUIDELINES**

**Notice of Exemption**

**To:**  Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

County Clerk  
County of Yolo  
625 Court Street Room 105  
Woodland, CA 95695

County Clerk  
Solano County  
600 Texas Street  
Fairfield, CA 94533

**From:** Yolo-Solano Air Quality Management District  
1947 Galileo Court, Suite 103  
Davis, CA 95618

**Project Title:** Adoption of Rule 2.46 – ORGANIC WASTE COMPOSTING OPERATIONS

**Project Location:** Yolo-Solano Air Quality Management District

**Project description:** The District is proposing to adopt Rule 2.46, ORGANIC WASTE COMPOSTING OPERATIONS. The proposed rule will limit the emission of volatile organic compounds from stockpiling and active phase composting at commercial composting facilities.

**Name of Public Agency Approving Project:** Yolo-Solano Air Quality Management District

**Name of Person or Agency Carrying Out Project:** Yolo-Solano Air Quality Management District

Exempt Status:

- Ministerial
- Emergency Project
- Categorical Exemption (CEQA Guidelines Section 15308, Action by Regulatory Agency for Protection of the Environment)
- Statutory Exemption

**Reason why project is exempt:** The adoption of Rule 2.46 is an action taken to maintain and protect the environment and is therefore exempt from CEQA because it constitutes a Class 8 categorical exemption pursuant to CEQA Guidelines 15308.

**Lead Agency Contact Person:** Gretchen Bennitt, Air Pollution Control Officer

**Telephone Number:** (530) 757-3650

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Title:** \_\_\_\_\_



**Notice of Exemption**

**To:**  Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

County Clerk  
County of Yolo  
625 Court Street Room 105  
Woodland, CA 95695

County Clerk  
Solano County  
600 Texas Street  
Fairfield, CA 94533

**From:** Yolo-Solano Air Quality Management District  
1947 Galileo Court, Suite 103  
Davis, CA 95618

**Project Title:** Adoption of Rule 2.46 – ORGANIC WASTE COMPOSTING OPERATIONS

**Project Location:** Yolo-Solano Air Quality Management District

**Project description:** The District is proposing to adopt Rule 2.46, ORGANIC WASTE COMPOSTING OPERATIONS. The proposed rule will limit the emission of volatile organic compounds from stockpiling and active phase composting at commercial composting facilities..

**Name of Public Agency Approving Project:** Yolo-Solano Air Quality Management District

**Name of Person or Agency Carrying Out Project:** Yolo-Solano Air Quality Management District

Exempt Status:

- Ministerial
- Emergency Project
- Categorical Exemption (CEQA Guidelines Section 15308, Action by Regulatory Agency for Protection of the Environment)
- Statutory Exemption

**Reason why project is exempt:** The adoption of Rule 2.46 is an action taken to maintain and protect the environment and is therefore exempt from CEQA because it constitutes a Class 8 categorical exemption pursuant to CEQA Guidelines 15308.

**Lead Agency Contact Person:** Gretchen Bennitt, Air Pollution Control Officer

**Telephone Number:** (530) 757-3650

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Title:** \_\_\_\_\_



**ATTACHMENT C**

**RESOLUTION NO. 24-11**

RESOLUTION NO. 24-11

RESOLUTION ADOPTING YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT RULE 2.46

**WHEREAS**, California Health and Safety Code section 40702 provides that an air quality management district shall adopt rules and regulations as may be necessary or proper to execute the powers and duties granted to, and imposed upon, the district by Division 26 of the Health and Safety Code; and

**WHEREAS**, Health and Safety Code section 40727 provides that before adopting, amending, or repealing a rule or regulation, a district board shall make findings of necessity, authority, clarity, consistency, nonduplication, and reference, based upon information developed pursuant to section 40727.2, information in the rulemaking record maintained pursuant to section 40728, and relevant information presented at the public hearing required by section 40725; and

**WHEREAS**, section 15308 of the CEQA Guidelines provides that actions taken by regulatory agencies as authorized by state law to assure the maintenance, restoration, or enhancement of the environment where the regulatory process involves procedures for protection of the environment, are categorically exempt from CEQA review (Class 8 Categorical Exemption); and

**WHEREAS**, District staff identified requirements within the Federal Clean Air Act, Section 172(c)(9) and 182(c)(9), which required the adoption of Rule 2.46, ORGANIC WASTE COMPOSTING OPERATIONS, to implement a contingency measure for the Sacramento Federal Nonattainment Area State Implementation Plan in compliance with federal law.

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Directors of the Yolo-Solano Air Quality Management District hereby finds, authorizes, directs and declares as follows:

1. The Board of Directors has considered and hereby adopts by reference the staff report prepared in this matter.
2. The Board of Directors makes the following findings pursuant to Health and Safety Code section 40727:
  - a. Necessity: Information in the District's rulemaking record maintained pursuant to Health and Safety Code section 40728 demonstrates a need for adopting District Rule 2.46;
  - b. Authority: Health and Safety Code section 40702 permits the District to adopt

District Rule 2.46;

- c. Clarity: District Rule 2.46 as proposed is written so that its meaning can be easily understood by the persons directly affected by it;
  - d. Consistency: District Rule 2.46 as proposed is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations;
  - e. Nonduplication: District Rule 2.46 as proposed does not impose the same requirements as an existing state or federal regulation;
  - f. Reference: By adopting District Rule 2.46, the District meets the requirements of Health & Safety Code Sections 40702.
3. The Board of Directors finds that the District has complied with the procedural requirements set forth in Chapters 6 and 6.5 of Part 3 of Division 26 of the Health and Safety Code.
  4. The Board of Directors finds that adopting District Rule 2.46 is an action taken by a regulatory agency as authorized by state law to assure the maintenance, restoration, or enhancement of the environment where the regulatory process involves procedures for protection of the environment, and is therefore categorically exempt from CEQA review as a Class 8 Categorical Exemption.
  5. The Board of Directors hereby adopts District Rule 2.46 as set forth in Exhibit 1 (Attachment A of the Staff Report), which is attached and incorporated by reference. The adoption is effective December 11, 2024.

**PASSED AND ADOPTED** by the Board of Directors of the Yolo-Solano Air Quality Management District this 11<sup>th</sup> day of December, 2024, by the following vote:

Ayes:

Noes:

Absent:

Abstain:

\_\_\_\_\_  
Mitch Mashburn, Chair Board of Directors  
Yolo-Solano Air Quality Management District

Attest:

Approved as to Form:

\_\_\_\_\_  
Denise Almaguer, Clerk  
Board of Directors

\_\_\_\_\_  
Hope Welton, District Counsel

**ATTACHMENT D**

**WRITTEN COMMENTS RECEIVED**