



July 14, 2026

Lilian Brasil
Edwin Brasil Dairy Composting
29134 Road 56
Visalia, CA 93277

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-10518
Project Number: S-1260394

Dear Mr. Brasil:

Enclosed for your review and comment is the District's analysis of Edwin Brasil Dairy Composting's application for an Authority to Construct for a commercial dairy manure composting operation consisting of open windrows and permit-exempt compost storage and compost load-out, at 29134 Road 56, Visalia, CA .

The notice of preliminary decision for this project has been posted on the District's website (<https://valleyair.org/>). After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Entor Pineda of Permit Services at (661) 392- 5617.

Sincerely,



Brian Clements
Director of Permit Services

BC:ep

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email
Mike Kalmink and Autumn DeHore, Innovative AG Services, via email

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San Joaquin Valley Air Pollution Control District

Authority to Construct Permit Application Review

Commercial Dairy Manure Composting Operation

Facility Name: Edwin Brasil Dairy Composting Date: July 14, 2026
Mailing Address: 29134 Road 56, Engineer: Entor Pineda
Visalia, CA 93277 Lead Engineer: Erin Scott
Facility Contact Person: Mike Kalmink
Contact Telephone: (559) 587-2800
Contact E-Mail: mkalmink@innovativeag.net
Application #(s): S-10518-1-0
Project #: S-1260394
Date Deemed Complete: March 26, 2026

I. Proposal

Edwin Brasil Dairy Composting has requested an Authority to Construct (ATC) permit for the installation of a commercial composting operation solely composting manure. The operation is proposed to operate at a maximum throughput rate of 400 wet-tons per day and 19,999 wet-tons per year. All the manure will be sourced onsite from the existing dairy operation and sold commercially to offsite customers.

Although this operation will be located within Edwin Brasil Dairy's facility S-5309, the primary purpose of the proposed operation is to produce compost for sale to offsite customers; therefore, it is considered a commercial process rather than a connected process, common process, or an incidental part of the existing agricultural operations⁽¹⁾. Therefore, the proposed commercial composting operation is considered a separate stationary source pursuant to District Rule 2201, Section 3.43, and has been assigned its own facility ID (S-10518) with SIC Code 2875 for commercial composting.

Lastly, commercial composting operations are subject to the requirements of District Rule 4565, Biosolids, Animal Manure, and Poultry Litter Operations; whereas manure management operations, including composting, that are exclusively incidental to a dairy operation are exempt. A more detailed discussion of District Rule 4565 requirements and mitigation measures can be found in section VIII below.

The draft ATC is included in Appendix A.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/20/23)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/20/24)
Rule 4001	New Source Performance Standards (4/14/99)

¹ This determination is based on the court case, *Egg City vs Ventura Air Pollution Control District* (1981).

Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
 Rule 4101 Visible Emissions (4/16/26)
 Rule 4102 Nuisance (12/17/92)
 Rule 4201 Particulate Matter Concentration (12/17/92)
 Rule 4202 Particulate Matter – Emissions Rate (12/17/92)
 Rule 4565 Biosolids, Animal Manure, and Poultry Litter Operations (03/15/07)
 Rule 8011 General Requirements (8/19/04)
 Rule 8031 Bulk Materials (8/19/04)
 Rule 8041 Carryout and Trackout (8/19/04)
 Rule 8051 Open Areas (9/21/23)
 Rule 8061 Paved and Unpaved Roads (8/19/04)
 Rule 8071 Unpaved Vehicle/Equipment Traffic Areas (9/16/04)
 CH&SC 41700 Health Risk Assessment
 CH&SC 42301.6 School Notice
 Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
 California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at 29134 Road 56 in Visalia, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Manure Receiving

The proposed operation will not be receiving manure from outside sources. Only manure from the existing onsite dairy operations will be used. Farm implements already used at the dairy for solid manure management will be used to move the manure to the composting yard and stack it into windrows. The manure will not be screened or treated in any manner that would be different from what is currently permitted under the dairies' solid manure handling operations. Since the handling of solid manure and any associated emissions is already permitted under the existing dairy operation permits (S-5309-4), the movement of the manure to the composting area will not be subject to new/separate permit requirements.

Composting

Composting is the aerobic decomposition of organic matter by microorganisms under controlled conditions to produce a stable humus-like material that is primarily used for soil conditioning purposes. Manure is combined with separated solids to achieve the optimum nitrogen-carbon ratio, moisture content, and porosity (for aeration). No screening or grinding of the manure or separate solids will be done. Water is added if necessary to increase the moisture content. The mixture is then stacked in windrows up to six feet high, twenty feet wide at the base, and over a thousand feet long. The composting process begins on its own when natural microorganisms in the material start consuming the organic matter. The abundance of organic matter in combination with optimal moisture and oxygen conditions causes the microorganism digest

organic matter are exothermic in nature, the temperature in the compost pile increases rapidly as the composting process accelerates. The initial increase in temperature further optimizes the growth rate of the microorganism populations, but the temperature must be monitored to ensure that it does not exceed the optimal level (~160 deg. Fahrenheit) for continued growth of the microorganism. When the temperature approaches or reaches the optimum level, the pile is turned (ploughed over using a purpose-designed windrow turning machine). Turning the pile not only lets in large quantities of air which cool down the composting material back to a safer temperature level but also ensures that there is proper uniform/complete composting process. Moisture can be added using water sprays during the turning process. Each windrow will be turned up to four times during the 22-day active composting phase, depending on the temperature and moisture content. As the organic content of the material in the pile gets depleted, the microbial populations begin to die off. This is indicated by a consistent drop in temperature. The active phase of composting ends when the pile temperature stabilizes at a level below the peak optimum temperature. At this point, the pile may no longer need to be turned and can be left to site in a 'curing phase' for at least another forty days. During the curing phase, the composting process continues to take place, but at a much slower pace. At the end of the curing phase, the compost is considered 'finished' and should be complete stable, i.e. no significant/measurable microbial activity remain.

Under ideal conditions, composting (i.e., the aerobic decomposition of organic matter) primarily produces carbon dioxide and water. However, maintaining uniformly optimal aerobic conditions throughout a composting operation is not practical under normal operating conditions. Consequently, composting processes also generate emissions of volatile organic compounds (VOCs), ammonia (NH₃), and other trace compounds. Emission rates depend on factors such as feedstock characteristics, moisture content, temperature, oxygen availability, and process management practices. Reduced sulfur compounds (including hydrogen sulfide) and methane may also be emitted, particularly in localized anaerobic zones, although such emissions are generally expected to be substantially lower than those associated with predominantly anaerobic decomposition processes.

Finished Compost Storage and Load-out

Finished compost will not be screened. At the end of the curing phase, the compost will remain in the piles and will be considered to be in storage. Further cooling and evaporation of excess moisture occurs during storage, but emission of any pollutants are negligible. The finished compost will eventually be loaded out for application to land within the dairy's cropland areas or for offsite shipment to customers. As discussion Section VIII of this engineering evaluation, finished compost storage and load-out will be exempt from permit requirements as low emitting units.

V. Equipment Listing

S-10518-1-0: DAIRY MANURE COMPOSTING OPERATION CONSISTING OF OPEN WINDROWS AND PERMIT-EXEMPT COMPOST STORAGE AND COMPOST LOAD-OUT (LOW EMITTING UNITS)

VI. Emission Control Technology Evaluation

The manure composting operation produces primarily VOC and NH₃ emissions. Some PM₁₀ emissions and fugitive dust from the handling of manure and compost are also expected. To minimize VOC and NH₃ emissions, the facility will utilize good management practices as required by District Rule 4565. Based on the proposed maximum throughput, the proposed operation is required to implement three Class One mitigation measures. The applicant has proposed to implement the following measures:

- Measure #1 - Scrape or sweep, at least once per 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.
- Measure #2 - Maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile.
- Measure #3 - Maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight.

Per Appendix B of the staff report for Rule 4565, compliance with the requirements of this rule is expected to result in a 10% overall reduction in emissions. PM₁₀ emissions and fugitive dust will be controlled with the use of moisture content in manure/compost and implementation of Regulation VIII requirements.

VII. General Calculations

A. Assumptions

- The maximum quantity of manure processed in any one day is 400 wet-tons (per applicant).
- The maximum quantity of manure processed in any calendar year is 19,999 wet-tons (per applicant).
- To be conservative, Potential to Emit calculations will assume a 22-day active phase, which is the minimum number of days required by District Rule 4565 for active composting.
- The number of days in curing phase is typically 40. 40-days is also the minimum number of days required by District Rule 4565 for curing composting.
- Based on 22 days of active phase composting and a maximum processing rate of 400 wet-tons/day, the maximum capacity during active phase composting is 8,800 wet-tons. Since this is less than the facility's permitted annual throughput limit of 19,999 wet-tons, there would be manure in the curing phase at the same time. Thus, daily PE will be the sum of emissions from the active phase and curing phase.
- 80% of the total composting VOC emissions occur during the active phase and 20% occur during the curing phase (Per SCAQMD Composting Staff Report, 1/10/2003)².
- 50% of the total composting NH₃ emissions occur during the active phase and 50% occur during the curing phase (Per SCAQMD Composting Staff Report, 1/10/2003)².

² <https://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-1133/staff-report.pdf>

- For the forming of windrow composting piles, there will be a total of one drop point consisting of the transfer of the compost materials from the dairy manure storage piles to the windrow piles.
- Compliance with District Rule 4565 will result in an overall 10% reduction in VOC emissions (per District Rule 4565 staff report). Although the staff report addresses only VOC emissions, the same control efficiency will be used for NH₃ emissions, based on the assumption that the emission sources/mechanism are the same for both pollutants, hence the mitigation measures required for rule compliance will affect both pollutants in a similar manner.
- Hydrogen sulfide emissions from active/curing compost are negligible (per industry standards).
- Inert organic material, such as hay or straw, will be present and utilized as a bulking agent, to promote composting of the manure by providing structure and maintain porosity.

B. Emission Factors

Open Windrow Composting

The following emission factors will be used to calculate VOC, NH₃, and PM₁₀ emissions from dairy manure composting:

Emission Factors for Active and Curing Phase Dairy Manure Composting		
Pollutant	Emission Factor (lb/wet-ton)	Source
VOC	0.25	SJVAPCD Compost Emission Factor Report, Table 1 (3/21/23)
NH ₃	1.53	
PM ₁₀	0.00033	See Discussion Below

The USEPA's AP-42 does not include an emission factor for the transfer of compost material. To be conservative, the uncontrolled AP-42 emission factor of 0.0011 lb-PM₁₀/ton of material for crushed stone conveyor transfer points (AP-42 Table 11.19.2-2, 8/04) will be used with a 70% adjustment (reduction) to account for the higher moisture content of compost, compared to the moisture content of crushed stone (similar to 70% control for water sprays). Therefore, $EF = (0.0011 \text{ lb-PM}_{10}/\text{ton}) \times (1 - 0.7) = 0.00033 \text{ lb-PM}_{10}/\text{wet-ton}$.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

Open Windrow Composting

The PE for open windrow composting is calculated as follows for each pollutant:

PM₁₀ - Forming of Open Windrows

$$\begin{aligned}
 \text{Daily PE (lb/day)} &= \text{EF (lb/wet-ton)} \times \text{Throughput (wet-tons/day)} \times (\# \text{ Drop Points}) \\
 &= (0.00033 \text{ lb/wet-ton}) \times (400 \text{ wet-tons/day}) \times (1 \text{ Drop Point}) \\
 &= 0.1 \text{ lb-PM}_{10}/\text{day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual PE (lb/yr)} &= \text{EF (lb/wet-ton)} \times \text{Throughput (wet-tons/yr)} \times (\# \text{ Drop Points}) \\
 &= (0.00033 \text{ lb/wet-ton}) \times (19,999 \text{ wet-tons/yr}) \times (1 \text{ Drop Point}) \\
 &= 7 \text{ lb-PM}_{10}/\text{yr}
 \end{aligned}$$

VOC - Active Phase

$$\begin{aligned}
 \text{Daily PE (lb/day)} &= \text{EF (lb/wet-ton)} \times \text{Fraction of Composting Emissions from Active} \\
 &\quad \text{Phase} \times \text{Design Capacity (wet-tons)} \times (1 - \text{Control Efficiency}) / \\
 &\quad (\text{Number of Active Composting Days}) \\
 &= (0.25 \text{ lb/wet-ton}) \times (0.8) \times (8,800 \text{ wet-tons}) \times (1 - 0.10) / (22 \text{ Days}) \\
 &= 72 \text{ lb-VOC/day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual PE (lb/yr)} &= (\text{EF, lb/wet-ton}) \times (\text{Fraction of Composting Emissions from Active} \\
 &\quad \text{Phase}) \times (\text{Throughput, wet-tons/yr}) \times (1 - \text{Control Efficiency}) \\
 &= (0.25 \text{ lb/wet-ton}) \times (0.8) \times (19,999 \text{ wet-tons/yr}) \times (1 - 0.10) \\
 &= 3,600 \text{ lb-VOC/yr}
 \end{aligned}$$

VOC - Curing Phase

$$\begin{aligned}
 \text{Daily PE (lb/day)} &= \text{EF (lb/wet-ton)} \times \text{Fraction of Composting Emissions from Curing} \\
 &\quad \text{Phase} \times \text{Capacity (wet-tons)} \times (1 - \text{Control Efficiency}) / (\text{Number of} \\
 &\quad \text{Curing Composting Days}) \\
 &= (0.25 \text{ lb/wet-ton}) \times (0.2) \times (11,199 \text{ wet-tons}) \times (1 - 0.10) / (40 \text{ Days}) \\
 &= 12.6 \text{ lb-VOC/day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual PE (lb/yr)} &= (\text{EF, lb/wet-ton}) \times (\text{Fraction of Composting Emissions from Curing} \\
 &\quad \text{Phase}) \times (\text{Throughput, wet-tons/yr}) \times (1 - \text{Control Efficiency}) \\
 &= (0.25 \text{ lb/wet-ton}) \times (0.2) \times (19,999 \text{ wet-tons/yr}) \times (1 - 0.10) \\
 &= 900 \text{ lb-VOC/yr}
 \end{aligned}$$

VOC - Summary

VOC PE Summary			
	Active Phase	Curing Phase	Maximum PE
Daily	72.0 lb/day	12.6 lb/day	84.6 lb/day
Annual	3,600 lb/yr	900 lb/yr	4,500 lb/yr

NH3 – Active Phase

$$\begin{aligned}
 \text{Daily PE (lb/day)} &= \text{EF (lb/wet-ton)} \times \text{Fraction of Composting Emissions from Active Phase} \times \text{Capacity (wet-tons)} \times (1 - \text{Control Efficiency}) / (\text{Number of Active Composting Days}) \\
 &= (1.53 \text{ lb/wet-ton}) \times (0.5) \times (8,800 \text{ wet-tons}) \times (1 - 0.10) / (22 \text{ Days}) \\
 &= 275.4 \text{ lb/day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual PE (lb/yr)} &= (\text{EF, lb/wet-ton}) \times (\text{Fraction of Composting Emissions from Active Phase}) \times (\text{Throughput, wet-tons/yr}) \times (1 - \text{Control Efficiency}) \\
 &= (1.53 \text{ lb/wet-ton}) \times (0.5) \times (19,999 \text{ wet-tons/yr}) \times (1 - 0.10) \\
 &= 13,769 \text{ lb/yr}
 \end{aligned}$$

NH3 – Curing Phase

$$\begin{aligned}
 \text{Daily PE (lb/day)} &= \text{EF (lb/wet-ton)} \times \text{Fraction of Composting Emissions from Curing Phase} \times \text{Capacity (wet-tons)} \times (1 - \text{Control Efficiency}) / (\text{Number of Curing Composting Days}) \\
 &= (1.53 \text{ lb/wet-ton}) \times (0.5) \times (11,199 \text{ wet-tons}) \times (1 - 0.10) / (40 \text{ Days}) \\
 &= 192.8 \text{ lb/day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual PE (lb/yr)} &= (\text{EF, lb/wet-ton}) \times (\text{Fraction of Composting Emissions from Curing Phase}) \times (\text{Throughput, wet-tons/yr}) \times (1 - \text{Control Efficiency}) \\
 &= (1.53 \text{ lb/wet-ton}) \times (0.5) \times (19,999 \text{ wet-tons/yr}) \times (1 - 0.10) \\
 &= 13,769 \text{ lb/yr}
 \end{aligned}$$

NH3 – Summary

NH3 PE Summary			
	Active Phase	Curing Phase	Maximum PE
Daily	275.4 lb/day	192.8 lb/day	468.2 lb/day
Annual	13,769 lb/yr	13,769 lb/yr	27,538 lb/yr

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site, including all ERCs held as certificates and all emission reduction credits sold or transferred.

Since this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source; therefore, the SSPE1 is equal to zero.

4. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source, except for emissions units proposed to be shut down as part of a Stationary Source Project, and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site, including all ERCs held as certificates and all emission reduction credits sold or transferred.

SSPE2 (lb/year)						
Permit Unit	NOx	SOx	PM10	CO	VOC	NH ₃
S-10518-1-0	0	0	7	0	4,500	27,539
SSPE2	0	0	7	0	4,500	27,539

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status, the following shall NOT be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NOx	SOx	PM10	PM2.5	CO	VOC
SSPE1	0	0	0	0	0	0
SSPE2	0	0	7	0	0	4,500
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 (Prevention of Significant Deterioration) Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the

categories specified in 40 CFR 52.21 (b)(1)(i)(A). Therefore, the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO₂	VOC	SO₂	CO	PM*	PM10
Estimated Facility PE before Project Increase	0	0	0	0	0	0
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

*PM assumed to be equal to PM10.

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the Quarterly Net Emissions Change (QNEC), and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore, BE = PE1.

7. Senate Bill 288 Major Modification

A Senate Bill (SB) 288 Major Modification is a federal major modification under 40 CFR 51.165 as it existed on December 19, 2002. 40 CFR Part 51.165 (12/19/02) defines a Major Modification as any physical change in or change in the method of operation of *an existing major stationary source* that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Per section VII.C.5 above, this facility is not a major source for any of the pollutants addressed in this project. Thus, this project does not constitute an SB 288 major

modification and no further discussion is required.

8. Federal Major Modification / New Major Source

Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a “Major Modification” as defined in 40 CFR 51.165 and part D of Title I of the CAA.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification and no further discussion is required.

New Major Source

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to Section 3.30 of District Rule 2201.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- PM
- PM10

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i)(A). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	0	2.3	0	0	0	0
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore, Rule 2410 is not applicable and no further analysis is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix E.

VIII. Compliance Determination

Rule 2020 Exemptions

This rule specifies emissions units that are not required to obtain an Authority to Construct or Permit to Operate. This rule also specifies the recordkeeping requirements to verify the exemption and outlines the compliance schedule for emissions units that lose the exemption after installation.

Section 6.19 states that except as required by Section 5.0, no ATC or PTO shall be required for low emitting units, except those which belong to a source category listed in Sections 6.1 through 6.18.

- 6.19.1. Low Emitting Units, which belong to a source category listed in Sections 6.1 through 6.18, shall require an ATC or PTO unless they are specifically exempted in applicable source category section.
- 6.19.2. Notwithstanding Sections 6.19 and 6.19.1, Low Emitting Units, with uncontrolled HAP emissions that may cause a significant health risk to the public, shall require an ATC or PTO.

Section 3.10 of this rule defines a Low Emitting Unit as an emissions unit with an uncontrolled emissions rate of each air contaminant less than or equal to two pounds per day, or, if greater than two pounds per day, less than or equal to 75 pounds per year. The following discussions will demonstrate that the manure receiving and storage operation and the finished compost storage and load-out operation are Low Emitting Units and therefore exempt from permits.

Compost Storage

As previously discussed, VOC and NH₃ emissions from finished compost (post-curing) are generally considered negligible.

Due to the nature of the composting process, finished compost has relatively high moisture content. In addition, the compost will be stored in undisturbed piles and is expected to form stabilized outer layer as the excess moisture evaporates from the surface. PM₁₀ emissions from the storage piles are therefore expected to be negligible.

Since all emissions from storage piles are expected to be negligible, storage will be treated as a permit-exempt low emitting unit.

Compost Load-Out

As previously discussed, VOC and NH₃ emissions from finished compost (post-curing) are generally considered negligible.

PM₁₀ emissions are expected from the load-out of finished compost for offsite selling. The applicant states that all compost will be shipped out on an annual basis, i.e. maximum annual load-out will be the maximum quantity of compost produced during the year (19,999 wet-tons/yr). For the loading of the finished compost into trucks there will be a total of two drop points, consisting of the transfer of the finished compost materials from the storage piles to the truck.

As discussed in Section VII.B above, the USEPA's AP-42 does not include an emission factor for the transfer of compost material. To be conservative, the uncontrolled AP-42 emission factor of 0.0011 lb-PM₁₀/ton of material for crushed stone conveyor transfer points (AP-42 Table 11.19.2-2, 8/04) will be used with a 70% adjustment (reduction) to account for the higher moisture content of compost, compared to the moisture content of crushed stone (similar to 70% control for water sprays). Therefore, EF = (0.0011 lb/ton) x (1 – 0.7) = 0.00033 lb/wet-ton. It is noted that the 70% adjustment is not a control efficiency applied, but rather accounts for the typical high moisture content of compost.

The maximum annual uncontrolled PE for PM₁₀ emissions from compost load-out is calculated as follows:

$$\begin{aligned}
 \text{Annual PE (lb/yr)} &= (\text{EF, lb/wet-ton}) \times (\text{Throughput, wet-tons/yr}) \times (\# \text{ Drop Point}) \\
 &= (0.00033 \text{ lb/wet-ton}) \times (19,999 \text{ wet-tons/yr}) \times (2 \text{ Drop Points}) \\
 &= 13 \text{ lb-PM}_{10}/\text{yr}
 \end{aligned}$$

Per District Rule 2201 Section 4.12.2, since there is no specific PM to PM₁₀ ratio for handling of compost, we can assume 50% of total suspended particulate is PM₁₀. Thus,

$$\text{PE}_{2\text{PM}} = (\text{PE}_{2 \text{ lb-PM}_{10}/ \text{year}}) / (1 - 0.5)$$

PE2	PE2
(lb-PM ₁₀ /yr)	(lb-PM/yr)
13	26

The uncontrolled PE from finished compost storage and load-out is less than 75 lb/yr for all pollutants. Per the HRA Summary included in appendix C, the finished composting loadout operation does not pose a significant health risk. Thus, this operation qualifies as a low emitting unit and is exempt from permitting.

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- Any new emissions unit with a potential to emit exceeding 2.0 pounds per day, or the relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds per day, and/or
- Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New or relocated emissions units – PE > 2.0 lb/day

As seen in Section VII.C.2 above, the applicant is proposing to install a new manure composting operation with a PE greater than 2.0 lb/day for VOC and NH₃ for the active phase emission unit and curing phase emission unit. Therefore, BACT is triggered for VOC and NH₃ for each of the emission units since the PEs are greater than 2.0 lb/day.

b. Modification of emissions units – AIPE > 2.0 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore, BACT is not triggered.

c. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore, BACT is

not triggered for any pollutant.

2. BACT Guideline

The District does not currently have an approved BACT guideline for commercial dairy manure composting operations. Therefore, a project-specific BACT analysis was conducted (see Appendix B)

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the Project-Specific Top-Down BACT Analysis performed in this evaluation (see Appendix B), BACT has been satisfied with the following:

Composting – Active Phase

VOC: Compliance with applicable District Rule 4565 requirements

NH₃: Compliance with applicable District Rule 4565 requirements

Composting – Curing Phase

VOC: Compliance with applicable District Rule 4565 requirements

NH₃: Compliance with applicable District Rule 4565 requirements

The following conditions will be included to ensure compliance with BACT requirements:

- The permittee shall 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 these areas immediately after scraping or sweeping, except for compostable material in process piles or storage piles. [District Rules 2201 and 4565]
- The permittee shall maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile. [District Rules 2201 and 4565]
- The permittee shall maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight. [District Rules 2201 and 4565]
- For each active and curing compost pile that has not been turned within the previous seven days, the permittee shall test the oxygen concentration of each active compost pile and each curing pile at least once each week using TMECC Method 05.08-C (In-Situ Oxygen Refresh Rate) or an alternative test method for which written approval of the APCO and EPA has been obtained. [District Rules 2201 and 4565]

- The permittee shall test the moisture content of each active and curing compost pile at least once each week using TMECC Method 03.09, or using an alternative test method for which written approval of the APCO and EPA has been obtained, to ensure that the moisture content of every active and curing compost pile is maintained between 40% and 70%, by weight. [District Rules 2201 and 4565]
- The permittee shall maintain records to demonstrate that all areas where compostable material is mixed, screened, or stored are scraped or swept, at least once a day, 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. [District Rules 2201 and 4565]
- The permittee shall maintain records of the dates each active and curing compost pile is turned. For each compost pile that has not been turned within the previous seven days, the permittee shall maintain records of the date and the tested oxygen concentration. [District Rules 2201 and 4565]
- The permittee shall maintain moisture content testing records indicating the test dates and the test results for each active and curing compost pile. [District Rules 2201 and 4565]
- The permittee shall maintain records to demonstrate that whenever tested parameters of the mitigation measures are found to be outside the applicable limits, corrective action is taken, within 24 hours of discovery, to bring the parameters within the specified limits. [District Rules 2201 and 4565]

B. Offsets

1. District Emission Offset Requirements

a. District Offset Applicability

Pursuant to District Rule 2201, Section 4.5, District offset requirements shall be triggered on a pollutant-by-pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of District Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

District Offset Determination (lb/year)					
	NOx	SOx	PM10	CO	VOC
SSPE2	0	0	7	0	4,500
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	No

b. District Offset Quantity (DOQ) Required

As shown above, the SSPE2 is not greater than the offset thresholds for all pollutants, therefore, District offsets are not triggered. In conclusion, offsets will not be required for this project and no further discussion is required.

2. Federal Emission Offset Requirements**a. Federal Offset Applicability**

Pursuant to District Rule 2201, Section 4.8, federal offset requirements shall be triggered on a pollutant-by-pollutant basis and shall be required if the project is a New Major Source or a Federal Major Modification.

As demonstrated in section VII.C.8 above, this project is not a New Major Source or a Federal Major Modification for any pollutant addressed in this project. Thus, federal offsets are not triggered for this project.

b. Federal Offset Quantity (FOQ) Required

As discussed above, this project does not trigger Federal Major Modification or New Major Source requirements; therefore, in conclusion, federal offsets will not be required for this project and no further discussion is required.

C. Public Notification**1. Applicability**

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed,
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant,
- e. Any project at a minor source which results in an SSPE exceeding 80% of the major source threshold for any pollutant, and/or
- f. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

As shown in Section VII.C.5 above, this existing minor source facility is not becoming a Major Source as a result of this project. Therefore, this facility is not a New Major Source and this project does not constitute an SB 288 or a Federal Major Modification. Consequently, public noticing for this project for New Major Source, Federal Major Modification, or SB 288 Major Modification purposes is not required.

b. PE > 100 lb/day

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NOx	0.0	100 lb/day	No
SOx	0.0	100 lb/day	No
PM10	0.1	100 lb/day	No
CO	0.0	100 lb/day	No
VOC	84.6	100 lb/day	No
NH ₃	468.2	100 lb/day	Yes

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds (lb/year)					
	NOx	SOx	PM10	CO	VOC
SSPE1	0	0	0	0	0
SSPE2	0	0	7	0	4,500
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	No

As demonstrated above, there were no thresholds surpassed with this project; therefore, public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant under Rule 2201. According to District Rule 2201, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds (lb/year)						
	NOx	SOx	PM10	CO	VOC	NH₃
SSPE2	0	0	7	0	4,500	27,539
SSPE1	0	0	0	0	0	0
SSIPE	0	0	7	0	4,500	27,539
SSIPE Public Notice Threshold	20,000	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No	Yes

As demonstrated above, the SSIPEs for NH₃ were greater than 20,000 lb/year; therefore, public noticing for SSIPE purposes is required.

e. Minor Sources with SSPE Exceeding 80% of Major Source Threshold

Public notification is required for any project for new and/or modified stationary sources at minor source facilities that results in a SSPE exceeding 80% of the major source threshold.

As shown in Section VII.C.5 above, the facility is not a Major Source for NOx and VOC. The following table compares the SSPE1 with the SSPE2 in order to determine if 80% of any major source thresholds for NOx and VOC have been surpassed with this project. Pursuant to Section 5.4.6 of District Rule 2201, the increase in stationary source potential to emit should be consistent with Sections 3.28.1, 3.28.2, and 3.28.3 of Rule 2201. Section 3.28.1 omits fugitive emissions from the SSPE unless the source is included in one of the source categories listed in 40 CFR 51.165(a)(1)(iv)(C). Section 3.28.2 omits ERCs which have been banked since September 19, 1991 for actual emission reductions that have occurred at the source, but have not been used on-site. Finally, Section 3.28.3 omits emissions resulting directly from nonroad engines as defined in Section 216 of Part A of the Clean Air Act.

80% of Major Source Thresholds (lb/year)					
	NOx	SOx	PM10	CO	VOC
SSPE1	0	0	0	0	0
SSPE2	0	0	7	0	4,500
80% of Major Source Threshold	16,000	112,000	112,000	160,000	16,000
Public Notice Required?	No	No	No	No	No

As demonstrated above, the SSPE2 did not surpass 80% of the major source threshold for any pollutant emitted by this project; therefore, public noticing for this purpose is not required.

f. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant modification, and therefore, public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for NH₃ emissions in excess of 100 lb/day and an SSIPE greater than 20,000 lb/yr. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions:

- Only dairy manure and bulking agents shall be composted. Dairy manure includes cow, bull, calf, and heifer excretions and waste, including, but not limited to, dried solids and urine. Bulking agents include fibrous or woody plant materials such as, hay or straw, or other inert material approved by the APCO. [District Rule 2201]
- The total quantities of dairy manure (including bulking agents, if any) composted shall not exceed either of the following limits: 400 wet-tons in any one day or 19,999 wet-tons in any calendar year. [District Rules 2201 and 4565]
- PM₁₀ emissions from the active and curing phases of the composting operation shall not exceed 0.00033 lb/wet-ton of dairy manure. [District Rule 2201]
- VOC emissions from the active and curing phases of the composting operation shall not exceed 0.25 lb/wet-ton of dairy manure. [District Rule 2201]
- NH₃ emissions from the active and curing phases of the composting operation shall not exceed 1.53 lb/wet-ton of dairy manure. [District Rule 2201]
- The permittee shall 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 these areas immediately after scraping or sweeping, except for compostable material in process piles or storage piles. [District Rules 2201 and 4565]

- The permittee shall maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile. [District Rules 2201 and 4565]
- The permittee shall maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight. [District Rules 2201 and 4565]

E. Compliance Assurance

1. Source Testing

The following conditions detail testing requirements to ensure compliance with the assumptions made in the potential to emit calculations, BACT and District Rule 4565. The conditions will be further discussed in the District Rule 4565 discussion below.

- For each active and curing compost pile that has not been turned within the previous seven days, the permittee shall test the oxygen concentration of each active compost pile and each curing pile at least once each week using TMECC Method 05.08-C (In-Situ Oxygen Refresh Rate) or an alternative test method for which written approval of the APCO and EPA has been obtained. [District Rules 2201 and 4565]
- The permittee shall test the moisture content of each active and curing compost pile at least once each week using TMECC Method 03.09, or using an alternative test method for which written approval of the APCO and EPA has been obtained, to ensure that the moisture content of every active and curing compost pile is maintained between 40% and 70%, by weight. [District Rules 2201 and 4565]
- If the tested parameters of the mitigation measures are found to be outside the applicable limits, the permittee shall take corrective action within 24 hours of discovery to bring the pile characteristics to within the specified limits. [District Rules 2201 and 4565]

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions are listed on the permit to operate:

- The permittee shall maintain daily and annual records of the quantities (in wet-tons) of dairy manure composted. [District Rules 2201 and 4565]
- The permittee shall maintain records to demonstrate that all areas where compostable material is mixed, screened, or stored are scraped or swept, at least once a day, 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. [District Rules 2201 and 4565]

- The permittee shall maintain records of the dates each active and curing compost pile is turned. For each compost pile that has not been turned within the previous seven days, the permittee shall maintain records of the date and the tested oxygen concentration. [District Rules 2201 and 4565]
- The permittee shall maintain moisture content testing records indicating the test dates and the test results for each active and curing compost pile. [District Rules 2201 and 4565]
- The permittee shall maintain records to demonstrate that whenever tested parameters of the mitigation measures are found to be outside the applicable limits, corrective action is taken, within 24 hours of discovery, to bring the parameters within the specified limits. [District Rules 2201 and 4565]
- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4565]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.15 of District Rule 2201 requires that an AAQA be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District evaluated the proposed project's potential impact on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR 1925 (District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51).

Based on the results of the AAQA, the project is not expected to cause or contribute to an exceedance of any applicable NAAQS or CAAQS, nor does it exceed applicable Significant Impact Levels (SILs). See AAQA Summary included in appendix D to this application review for further detail.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201,

this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

New Source Performance Standards (NSPS) (Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR)) are federal air pollution control standards authorized by Section 111 of the Clean Air Act and promulgated by US EPA. By default, US EPA retains authority to administer and enforce NSPS unless US EPA delegates this authority to a state or local agency. District Rule 4001 incorporates those NSPS that US EPA has delegated to the District. In addition, for sources with Title V permits, the District acts as the administrator for all NSPS, regardless of the delegation status of the specific NSPS in Rule 4001.

However, no NSPS apply to dairy manure composting operations; therefore, no further discussion of NSPS is required.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

National Emission Standards for Hazardous Air Pollutants (NESHAP) (Part 61 and Part 63, Chapter 1, Subchapter C, Title 40, Code of Federal Regulations (CFR)) are federal standards for the control of hazardous air pollutants (HAP) authorized by Section 112 of the Clean Air Act and promulgated by US EPA. By default, US EPA retains authority to administer and enforce NESHAP unless US EPA delegates this authority to a state or local agency. District Rule 4002 incorporates those NESHAP that US EPA has delegated to the District. In addition, for sources with Title V permits, the District acts as the administrator for all NESHAP, regardless of the delegation status of the specific NESHAP in Rule 4002.

However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to dairy manure composting operations; therefore, no further discussion of NESHAP is required.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on ATC permits as a mechanism to ensure compliance:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. The following condition will be listed on the ATC(s) as a mechanism to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (General Limitations)

CH&SC Section 41700 states that except as otherwise provided in CH&SC Section 41705, a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property.

The District's health Risk Management Review (RMR) program and policies assist with demonstrating compliance with the aforementioned CH&SC requirements. One of the RMR program goals is to minimize the increase that new and modified stationary sources add to the existing toxic load and any potentially significant public health impacts associated with the release of those airborne toxic emissions. In order to achieve this goal, the District performs a Health Risk Assessment (HRA) to evaluate the health risk of any proposed stationary source ATC permitting project with a potential increase in air toxics emissions. Projects that may cause an increase in hourly, daily, or annual potential to emit of air toxics or projects that could increase the public exposure to air toxics undergo this analysis to ensure the possible adverse health risk on nearby residents or businesses, including the cumulative health risk from past projects dating back to the adoption of the program, does not exceed specified significance levels.

The District's risk management policies are APR 1905 (Risk Management Policy for Permitting New and Modified Sources) and APR 1906 (Framework for Performing Health Risk Assessments). Under District policy, significance levels are established for cancer risk (20 lifetime cases per million population) and acute and chronic risks (hazard index not greater than 1.0). The hazard index represents a ratio of the modeled air toxics concentration(s) at the most impacted receptor divided by the reference exposure level (REL), below which no adverse health effects are expected, even for sensitive individuals). The policy also requires Best Available Control Technology for toxics (TBACT) for emission units that have the potential to cause a greater than *de minimus* increase in cancer risk (equal to or greater than 1.0 case per million population).

The potential health risk from the proposed project is below all established significance thresholds; therefore, the project is approvable under District RMR Policies. See Health Risk Assessment Summary attached as Appendix C to this application review for further detail.

Rule 4202 Particulate Matter - Emission Rate

The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates. Per section 4.1, particulate matter emissions from any source operation shall not exceed the allowable hourly emission rate as calculated using the following applicable formulas:

$$E = 3.59 P^{0.62} \text{ (when, } P = \text{process weight rate} \leq 30 \text{ tons/hr)}$$

$$E = 17.31 P^{0.16} \text{ (when, } P = \text{process weight rate} > 30 \text{ tons/hr)}$$

Where,

E = emissions in (lb/hr) and P = process weight rate in (tons/hr)

Maximum Processing Rate

The maximum hourly processing rates for S-10518-1-0 is 50 tons/hr

Maximum Allowable PM Emission Rate

The maximum allowable PM hourly emission rate from each truck unloading point at the sand and coarse aggregate receiving and storage operation is calculated as follows:

$$E = 17.31 \times 50^{0.16} = 32.37 \text{ lb-PM/hr}$$

Actual Emission Rate

In accordance to District Rule 2201 the Weight Fraction of PM10 for composting operations is 0.5 (lb-PM10/lb-PM), the highest emission rate of this operation is calculated as lb-PM/hr.

$$\begin{aligned} E_{\text{actual}} &= \text{Hourly PE2 (lb-PM10/hr)} \div \text{Weight Fraction (lb-PM10/lb-PM)} \\ &= 0.01 \text{ lb-PM/hr} \end{aligned}$$

Since $E_{\text{actual}} < E_{\text{max}}$, compliance with this rule is expected under regular operating conditions.

Rule 4565 Biosolids, Animal Manure, and Poultry Litter Operations

The purpose of this rule is to limit emissions of volatile organic compounds (VOC) from operations involving the management of biosolids, animal manure, or poultry litter. The provisions of this rule apply to all facilities whose throughput consists entirely or in part of biosolids, animal manure, or poultry litter and the operator who landfills, land applies, composts, or co-composts these materials. The facility composts animal manure. Therefore, this rule applies.

Section 5.1 applies to operators that landfill biosolids, animal manure, or poultry litter. The existing composting operation does not involve landfilling. Therefore, this section does not apply.

Section 5.2 applies to operators that land apply material containing biosolids, animal manure, or poultry litter. The land application of compost is already authorized under Edwin Brasil Dairy's solid manure handling permit (S-5309-4). The purpose of this project is to evaluate the composting operation as it pertains to the commercial sale to offsite customers. Therefore, this section does not apply.

Section 5.3.1 states that operators of composting/co-composting facilities with throughputs less than 20,000 wet tons per year shall meet either 5.3.1.1 or 5.3.1.2.

- 5.3.1.1 Implement at least three (3) of the Class One mitigation measures listed in Table 2.
- 5.3.1.2 Implement at least two (2) Class One mitigation measures in addition to one (1) Class Two mitigation measure for active composting.

The facility has an annual throughput of 19,999 wet-tons per year, and has proposed to comply with Section 5.3.1.1. The following mitigation measures listed in Table 2 of the rule have been proposed:

- 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.
- Maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile.
- Maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight.

The following conditions will be placed on the permit as a mechanism to ensure compliance with the requirements of this section:

- The total quantity of dairy manure composted shall not exceed either of the following limits: 400 wet-tons in any one day or 19,999 wet-tons in any calendar year. [District Rules 2010, 2201 and 4565]
- The permittee shall 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 these areas immediately after scraping or sweeping, except for compostable material in process piles or storage piles. [District Rules 2201 and 4565]
- The permittee shall maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile. [District Rules 2201 and 4565]
- The permittee shall maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight. [District Rules 2201 and 4565]

Sections 5.3.2 and 5.3.3 apply to operators of composting/co-composting facilities with throughputs at least 20,000 wet tons per year. The proposed composting operation has a throughput of less than 20,000 wet tons per year. Therefore, these sections do not apply.

Section 5.3.4 states that operators selecting oxygen concentration or moisture content as a mitigation measure shall test each active compost pile and each curing compost pile at least once each week using the applicable test methods in Section 6.2.2, unless the APCO and EPA

determine, based on the weekly test results, that a different testing frequency is warranted to ensure compliance.

The following conditions will be placed on the permit as a mechanism to ensure compliance with the requirements of this section:

- For each active and curing compost pile that has not been turned within the previous seven days, the permittee shall test the oxygen concentration of each active compost pile and each curing pile at least once each week using TMECC Method 05.08-C (In-Situ Oxygen Refresh Rate) or an alternative test method for which written approval of the APCO and EPA has been obtained. [District Rules 2201 and 4565]
- The permittee shall test the moisture content of each active and curing compost pile at least once each week using TMECC Method 03.09, or using an alternative test method for which written approval of the APCO and EPA has been obtained, to ensure that the moisture content of every active and curing compost pile is maintained between 40% and 70%, by weight. [District Rules 2201 and 4565]

Section 5.3.5 applies to operators selecting initial carbon to nitrogen ratio as a mitigation measure. The facility has not proposed to manage the initial carbon to nitrogen ratio as a mitigation measure. Therefore, this section does not apply.

Section 5.3.6 states that if a tested parameter is found to be outside the applicable limits specified in Table 2, the operator shall take remedial action within 24 hours of discovery to bring pile characteristics within the specified limits.

The following condition will be placed on the permit as a mechanism to ensure compliance with the requirements of this section:

- If the tested parameters of the mitigation measures are found to be outside the applicable limits, the permittee shall take corrective action within 24 hours of discovery to bring the pile characteristics to within the specified limits. [District Rules 2201 and 4565]

Sections 5.4 through 5.7 apply to operators who propose Class Two mitigation measures. The facility has proposed to comply with Class One mitigation measures. Therefore, these sections do not apply.

Section 6.1.1 applies to operators claiming exemption under Section 4.0 of the rule. The existing composting operation is not exempt from this rule. Therefore, this section does not apply.

Section 6.1.2 applies to operators that landfill biosolids, animal manure, or poultry litter. The composting operation does not involve landfilling. Therefore, this section does not apply.

Section 6.1.3 applies to operators that land apply material containing biosolids, animal manure, or poultry litter. As previously discussed, the land application of compost is already authorized under Edwin Brasil Dairy's solid manure handling permit (S-5309-4). The purpose of this project

is to evaluate the composting operation as it pertains to the commercial sale to offsite customers. Therefore, this section does not apply.

Section 6.1.4 states that an operator of a composting facility subject to this rule shall keep the following records as specified in sections 6.1.4.1 through 6.1.4.3.

6.1.4.1 Throughput Records

On a daily basis, an operator shall record the quantity of materials received that would be used in the compost/co-compost operation. These materials include, but are not limited to, material that may be recovered from the composting process for reuse in another batch of compostable material; biosolids; animal manure; poultry litter; and green waste.

The following condition will be placed on the permit as a mechanism to ensure compliance with the requirements of this section:

- The permittee shall maintain daily and annual records of the quantities (in wet-tons) of the dairy manure composted. [District Rules 2201 and 4565]

6.1.4.2 Class One Mitigation Measure Records

An operator shall keep records that demonstrate that the facility meets the Class One mitigation measures selected for the facility each day that a mitigation measure is performed. For operators using an approved alternative Class One mitigation measure, the operator shall keep records for the alternative mitigation measure each day the alternative mitigation measure is performed.

The following conditions will be placed on the permit as a mechanism to ensure compliance with the requirements of this section:

- The permittee shall maintain records to demonstrate that all areas where compostable material is mixed, screened, or stored are scraped or swept, at least once a day, 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. [District Rules 2201 and 4565]
- The permittee shall maintain records of the dates each active and curing compost pile is turned. For each compost pile that has not been turned within the previous seven days, the permittee shall maintain records of the date and the tested oxygen concentration. [District Rules 2201 and 4565]
- The permittee shall maintain moisture content testing records indicating the test dates and the test results for each active and curing compost pile. [District Rules 2201 and 4565]
- The permittee shall maintain records to demonstrate that whenever tested parameters of the mitigation measures are found to be outside the applicable limits, corrective

action is taken, within 24 hours of discovery, to bring the parameters within the specified limits. [District Rules 2201 and 4565]

6.1.4.3 Class Two Mitigation Measure Records

An operator shall keep records according to Sections 6.1.5 through 6.1.7, as applicable, for the composting operations subject to Class Two mitigation measures.

No Class Two mitigation measures have been proposed. Therefore, these sections do not apply.

Section 6.1.8 states that unless otherwise specified in this section, the operator shall retain the applicable records specified in this section on-site for a period of five years, make the records available on-site during normal business hours to the APCO, ARB, or EPA, and submit the records to the APCO, ARB, or EPA upon request.

The following condition will be placed on the permit as a mechanism to ensure compliance with the requirements of this section:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4565]

Section 6.3 applies to operators proposing to utilize an alternative mitigation measures compliance plan. The facility is not proposing the use of any alternative mitigation measures. Therefore, this section does not apply.

Conclusion:

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule. Therefore, compliance with District Rule 4565 requirements is expected.

Rule 4566 Organic Material Composting Operations

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

Section 4.1.2 states 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 Rule 4566 for the materials associated with those operations.

Section 4.2.1.1 states composting operations that are subject to Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations) are exempt from all requirements of Rule 4566.

The existing composting operation in this project is subject to Rule 4565. Therefore, this operation is exempt from the requirements of Rule 4566.

Rule 4570 Confined Animal Facilities

The purpose of this rule is to limit emissions of VOC from Confined Animal Facilities (CAF), and the provisions of this rule apply to any CAF.

Section 3.19 of the rule defines a CAF as a facility where animals are corralled, penned, otherwise caused to remain in restricted areas for commercial purposes and primarily fed by a means other than grazing for at least forty-five (45) days in any twelve (12) month period.

Since the primary purpose of the operation is to produce compost for sale to offsite customers, it is considered a commercial product (finished compost) and is not a connected, common, or incidental process to the existing agricultural operations of the Edwin Brasil Dairy facility which operates as a dairy farm (S-5309). Therefore, this composting facility is a separate stationary source which does not meet the definition of a CAF. Therefore, this rule does not apply.

Rule 8011 General Requirements

The definitions, exemptions, requirements, administrative requirements, recordkeeping requirements, and test methods set forth in this rule are applicable to all rules under Regulation VIII (Fugitive PM₁₀ Prohibitions) of the Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District.

The composting operation has been determined to be non-agricultural; therefore, Regulation 8 requirements may apply.

The following condition will be included on the permit as a mechanism to ensure compliance with the requirements of this rule:

- Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rule 8011]

Rule 8021 Construction, Demolition Excavation, Extraction, and Other Earthmoving Activities

The purpose of this rule is to limit fugitive dust emissions from construction, demolition, excavation, and related activities.

Since no earthmoving activities are proposed at this facility, this rule is not applicable to this project.

Rule 8031 Bulk Materials

Pursuant to Section 2.0, this Rule is applicable to the outdoor handling and storage of any bulk material, which emits visible dust when stored or handled. The following condition will be included on the permit to ensure compliance with the requirements of this rule.

- All bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031]

Rule 8041 Carryout and Trackout

Pursuant to Section 2.0, this Rule is applicable to all sites that are subject to Rule 8021 (Construction, Demolition, Excavation, Extraction, and other Earthmoving Activities), Rule 8031 (Bulk Materials), and Rule 8071 (Unpaved Vehicle and Equipment Traffic Areas) where carryout or trackout has occurred or may occur. The following condition will be included on the permit to ensure compliance with the requirements of the rule:

- An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041, Section 5.0, unless specifically exempted under Section 4.0 of Rule 8011 or Rule 8041. [District Rule 8041]

Rule 8051 Open Areas

The purpose of this rule is to limit fugitive dust emissions from open areas. This rule applies to any open area having 0.5 acres or more within urban areas (i.e. city limits), or 3.0 acres or more within rural areas; and contains at least 1,000 square feet of disturbed surface area.

Rule 8011, Section 3.36 defines *open area* as one of the following:

- An unsubdivided or undeveloped land adjoining a developed or a partially developed residential, industrial, institutional, governmental, or commercial area.
- A subdivided residential, industrial, institutional, governmental, or commercial lot, which contains no approved or permitted building or structures of a temporary or permanent nature.
- A partially developed residential, industrial, institutional, governmental, or commercial lot and contiguous lots under common ownership.

Rule 8011, Section 3.11 defines *disturbed surface area* as

- An area in which naturally occurring soils, or soils or other materials placed thereon, have been physically moved, uncovered, destabilized, or otherwise modified by grading, land leveling, scraping, cut and fill activities, excavation, brush and timber clearing, or grubbing, and soils on which vehicle traffic and/or equipment operation has occurred. An area is considered to be disturbed until the activity that caused the disturbance has been completed, and the disturbed area meets the stabilized surface conditions specified in this rule.

The area set aside for composting will not have open areas associated with it. The open areas adjacent to the composting site are agricultural and would be exempt from the requirements in this rule. Therefore, the requirements of this rule do not apply.

Rule 8061 Paved and Unpaved Roads

The purpose of this rule is to limit fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria. This rule applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.

None of the composting operations proposed in this project will involve paved road building or paved road modification. Therefore, Section 5.1, Paved Roads, does not apply.

The facility may have a segment of unpaved gravel road where Section 5.2, Unpaved Road Segment, could apply.

The following condition will be included on the permit as a mechanism to ensure compliance with the requirements of this rule:

- On any unpaved road segment with 26 or more annual average daily vehicle trips (AADT), the owner/operator shall limit visible dust emissions (VDE) to 20% opacity and comply with the requirements of a stabilized unpaved road by application and/or reapplication/maintenance of at least one of the following control measures: (1) Watering; (2) Uniform layer of washed gravel; (3) Chemical/organic dust stabilizers/suppressants; (4) Roadmix; (5) Paving; or (6) Any other Any other method that can be demonstrated to the satisfaction of the APCO that effectively limits VDE to 20% opacity and meets the conditions of a stabilized unpaved road. [District Rules 8011 and 8061]

Rule 8071 Unpaved Vehicle/Equipment Traffic Areas

The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas. This rule applies to any unpaved vehicle/equipment traffic area.

The composting operation is expected to have some unpaved equipment traffic areas; therefore, the requirements of this rule apply.

The following conditions will be included on the permit as a mechanism to ensure compliance with the requirements of this rule:

- For unpaved vehicle or equipment traffic areas that have 50 or more annual average daily trips (AADT), or 150 or more vehicle daily trips (VDT), or 25 or more VDT with vehicles having 3 axles or more, the operator shall implement at least one of following control measures to limit visible dust emissions (VDE) to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in District Rule 8011: (1) Watering; (2) Uniform layer of washed gravel; (3) Chemical/organic dust stabilizers/suppressants; (4) Vegetative materials; (5) Paving; (6) Roadmix; or (7) Any other method that can be demonstrated to the satisfaction of the APCO that effectively limits VDE to 20% opacity and meets the conditions of a stabilized unpaved road. [District Rules 8011 and 8071]

- Whenever any portion of the site becomes inactive, the permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in District Rule 8011. [District Rules 8011 and 8071]

Rule 8081 Agricultural Sources

The purpose of this rule is to limit fugitive dust emissions from agricultural sources. This rule applies to off-field agricultural sources.

Since the composting operation has been determined to not be an agricultural operation, this rule does not apply.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

The County of Tulare (County) is the public agency having principal responsibility for approving the Project. As such, the County served as the Lead Agency for the Project. The County determined the project to be exempt from CEQA according to CEQA Guidelines §15061(b)(3)(Common Sense Rule). Consistent with CEQA Guidelines §15062, a Notice of Exemption was prepared and adopted by the County.

Pursuant to CEQA Guidelines §15250, the District is a Responsible Agency for the Project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381).

The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's thresholds of significance for criteria pollutants. Thus, the District concludes that through a combination of project design elements and permit conditions, project specific stationary source emissions will be reduced to less than significant levels. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

To ensure that issuance of this permit does not conflict with any conditions imposed by any local agency permit process, the following permit condition will be listed on each permit as follows:

- {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [District Rules 2070 and 2080, and Public Resources Code 21000-21177: California Environmental Quality Act].

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-10518-1-0 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-10518-1-0	3020-06	Windrow Composting	\$128

XI. Appendices

- A: Draft ATC
- B: Project Specific BACT Top-Down Analysis
- C: HRA Summary
- D: AAQA Summary
- E: Quarterly Net Emissions Change

APPENDIX A

Draft ATC

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-10518-1-0

LEGAL OWNER OR OPERATOR: EDWIN BRASIL DAIRY COMPOSTING

MAILING ADDRESS: 29134 ROAD 56
VISALIA, CA 93277

LOCATION: 29134 ROAD 56
VISALIA, CA 93277

EQUIPMENT DESCRIPTION:

DAIRY MANURE COMPOSTING OPERATION CONSISTING OF OPEN WINDROWS AND PERMIT-EXEMPT COMPOST STORAGE AND COMPOST LOAD-OUT (LOW EMITTING UNITS)

CONDITIONS

1. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Only dairy manure and bulking agents shall be composted. Dairy manure includes cow, bull, calf, and heifer excretions and waste, including, but not limited to, dried solids and urine. Bulking agents include fibrous or woody plant materials such as, hay or straw, or other inert material approved by the APCO. [District Rule 2201]
5. The total quantities of dairy manure (including bulking agents, if any) composted shall not exceed either of the following limits: 400 wet-tons in any one day or 19,999 wet-tons in any calendar year. [District Rules 2201 and 4565]
6. PM10 emissions from the active and curing phases of the composting operation shall not exceed 0.00033 lb/wet-ton of dairy manure. [District Rule 2201]
7. VOC emissions from the active and curing phases of the composting operation shall not exceed 0.25 lb/wet-ton of dairy manure. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-10518-1-0 : 7/9/2026 10:27:07 AM -- PINEDAE : Joint Inspection NOT Required

8. Ammonia emissions from the active and curing phases of the composting operation shall not exceed 1.53 lb/wet-ton of dairy manure. [District Rule 2201]
9. The permittee shall 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. [District Rules 2201 and 4565]
10. The permittee shall maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile. [District Rules 2201 and 4565]
11. The permittee shall maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight. [District Rules 2201 and 4565]
12. If the tested parameters of the mitigation measures are found to be outside the applicable limits the permittee shall take corrective action, within 24 hours of discovery, to bring the pile characteristics to within the specified limits. [District Rules 2201 and 4565]
13. All bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031]
14. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041, Section 5.0, unless specifically exempted under Section 4.0 of Rule 8011 or Rule 8041. [District Rules 8011 and 8041]
15. On any unpaved road segment with 26 or more annual average daily vehicle trips (AADT), the owner/operator shall limit visible dust emissions (VDE) to 20% opacity and comply with the requirements of a stabilized unpaved road by application and/or reapplication/maintenance of at least one of the following control measures: (1) Watering; (2) Uniform layer of washed gravel; (3) Chemical/organic dust stabilizers/suppressants; (4) Roadmix; (5) Paving; or (6) Any other Any other method that can be demonstrated to the satisfaction of the APCO that effectively limits VDE to 20% opacity and meets the conditions of a stabilized unpaved road. [District Rules 8011 and 8061]
16. For unpaved vehicle or equipment traffic areas that have 50 or more annual average daily trips (AADT), or 150 or more vehicle daily trips (VDT), or 25 or more VDT with vehicles having 3 axles or more, the operator shall implement at least one of following control measures to limit visible dust emissions (VDE) to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in District Rule 8011: (1) Watering; (2) Uniform layer of washed gravel; (3) Chemical/organic dust stabilizers/suppressants; (4) Vegetative materials; (5) Paving; (6) Roadmix; or (7) Any other method that can be demonstrated to the satisfaction of the APCO that effectively limits VDE to 20% opacity and meets the conditions of a stabilized unpaved road. [District Rules 8011 and 8071]
17. Whenever any portion of the site becomes inactive, the permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in District Rule 8011. [District Rules 8011 and 8071]
18. For each active and curing compost pile that has not been turned within the previous seven days, the permittee shall test the oxygen concentration of each active compost pile and each curing pile at least once each week using TMECC Method 05.08-C (In- Situ Oxygen Refresh Rate) or an alternative test method for which written approval of the APCO and EPA has been obtained. [District Rules 2201 and 4565]
19. The permittee shall test the moisture content of each active and curing compost pile at least once each week using TMECC Method 03.09, or an alternative test method for which written approval of the APCO and EPA has been obtained, to ensure that the moisture content of every active and curing compost pile is maintained between 40% and 70%, by weight. [District Rules 2201 and 4565]
20. The permittee shall maintain records to demonstrate that all areas where compostable material is mixed, screened, or stored are scraped or swept, at least once a day, 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. [District Rules 2201 and 4565]
21. The permittee shall maintain records of the dates each active and curing compost pile is turned. For each compost pile that has not been turned within the previous seven days, the permittee shall maintain records of the date and the tested oxygen concentration. [District Rules 2201 and 4565]

CONDITIONS CONTINUE ON NEXT PAGE

22. The permittee shall maintain moisture content testing records indicating the test dates and the test results for each active and curing compost pile. [District Rules 2201 and 4565]
23. The permittee shall maintain records to demonstrate that whenever tested parameters of the mitigation measures are found to be outside the applicable limits, corrective action is taken, within 24 hours of discovery, to bring the parameters within the specified limits. [District Rules 2201 and 4565]
24. Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rule 8011]
25. The permittee shall maintain daily and annual records of the quantities (in wet-tons) of the dairy manure composted. [District Rules 2201 and 4565]
26. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4565]

DRAFT

APPENDIX B

Project Specific BACT Top-Down Analysis

I. Top-Down BACT Analysis for the Commercial Composting Operation

There are currently no applicable valid BACT guidelines for commercial manure composting operations with a throughput < 20,000 wet-tons/yr in the District's BACT clearinghouse. Thus, a project specific top-down BACT analysis must be performed to determine what requirements satisfy BACT for this type of operation.

1. VOC and NH₃ Emissions

The BACT Analysis for VOC and NH₃ emissions applies to commercial manure composting operations with a throughput < 20,000 wet-tons/yr.

a. Step 1 – identify all control technologies

The following references were consulted to determine emission limits and control required to reduce PM₁₀ emissions from commercial composting operations:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD (SCAQMD) BACT clearinghouse
- Bay Area Air District (BAAD) BACT clearinghouse
- Sacramento Metro AQMD (SMAQMD) BACT Clearinghouse
- San Joaquin Valley APCD (SJVAPCD) BACT Clearinghouse

The following rules were also consulted:

- SCAQMD Rule 1133.2 – Emission Reductions From Co-Composting Operations
- Antelope Valley AQMD (AVAQMD) Rule 1133 – Composting and Related Operations
- SJVAPCD Rule 4565 – Biosolids, Animal manure, and Poultry Litter Operations

Survey of BACT Guidelines:

Agency	VOC and NH ₃
EPA	BAAD, CARB, EPA, SCAQMD, SMAQMD, and SJVAPCD did not contain any BACT guideline's applicable to Commercial Manure Composting Operations with a throughput < 20,000 wet-tons/yr.
CARB	
BAAD	
SMAQMD	
SCAQMD	
SJVAPCD	

BACT guidelines for co-composting operations were searched for emission control technology transfer purposes. The following BACT guidelines from SCAQMD and SJVAPCD were found.

Agency	Guideline	Process and Range	Control Technology
SCAQMD	Non-Major Polluting Facilities	Co-Composting (composting where biosolids and/or manure are mixed with bulking agents to produce compost)	<u>VOC and NH₃ (Achieved in Practice)</u> Compliance with SCAQMD Rule 1133.2 (12/5/2003)
SJVAPCD	6.4.9 (rescinded)	Co-Composting with Green and Food Materials and Manure: < 20,000 tons/yr throughput	<u>VOC and NH₃ (Achieved in Practice)</u> - Mitigation measures from Rule 4565 <u>VOC (Technologically Feasible)</u> (1). Enclosed aerated static pits and vent to control device, such as thermal/catalytic incineration system (98% control efficiency), carbon adsorption system (95% control efficiency), and biofilter system (80% control efficiency). (2). Negatively aerated static pits with engineered, under pit, grid aeration system venting to thermal/catalytic oxidizer incineration system with control efficiency of 98%. (3). Negatively aerated static pits with engineered, under pit, grid aeration system venting to a carbon adsorption system (95% control efficiency). (4). In-vessel composting system with control efficiency of 91%. (5). Negatively aerated static pits with engineered, under pit, grid aeration system venting to biofilter system with control efficiency of 80%. <u>NH₃ (Technologically Feasible)</u> (1). Enclosed aerated static pits and vent to control device, such as wet scrubber system (99% control efficiency), and biofilter

			system (80% control efficiency). • (2). Negatively aerated static pits with engineered, under pit, grid aeration system venting to wet scrubber with control efficiency of 99%. • (3). Negatively aerated static pits with engineered, under pit, grid aeration system venting to biofilter system with control efficiency of 80%. • (4). In-vessel composting system with control efficiency of 56%.
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Survey of Applicable Rules:

Agency	VOC and NH ₃ Mitigation Measures	
AVAQMD Rule 1133	(C)(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 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 Feed stock 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 Green waste. (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.
SCAQMD Rule 1133.2	(d). The owner or operator of a co-composting operation shall:	(1). Conduct the Active phase within the confines of an enclosure which meets the following conditions: (A). The inward face velocity of air through each natural draft opening in which air can enter the Enclosure shall be a minimum of 100 feet per minute, unless the natural draft opening is equipped with a closure device that seals the natural draft opening in the event that the airflow direction changes. (B). The area of all natural draft openings in the Enclosure through which air can enter the Enclosure shall not exceed two (2) percent of the surface area of the Enclosure's four (4) walls, floor, and ceiling. (C). The Enclosure may be opened for brief time periods, not to exceed a total of 30 minutes per day for purposes of access or maintenance. These time periods do not need to be included in the face velocity determination or as a natural draft opening for the two (2) percent criteria. (D). No measurable increase over background levels, measured in accordance with paragraph (g)(5), of ammonia or hydrocarbon downwind outside the Enclosure shall occur at any natural draft opening including any natural draft opening that occurs briefly for access or maintenance. A portable ammonia analyzer, colorimetric test, hydrocarbon analyzer, or another alternative method approved by the Executive Officer as being equivalent or better shall be used for these measurements. The portable ammonia analyzer shall be operated

		per manufacturer's instructions and calibrated with certified zero and ten (10) parts per million ammonia standards. The portable hydrocarbon analyzer shall be a flame ionization detector operated per manufacturer's instructions and calibrated with certified zero and ten (10) parts per million methane standards. The owner or operator shall monitor each natural draft opening and the background levels at least daily and record monitoring results. (2). Conduct the Active Phase until meeting at least one of the following criteria: (A). For a minimum of 22 consecutive calendar days, beginning when Organic Waste Material is mixed together for composting. (B). The Active Phase Pile has a Compost Maturity Index of 4.5 or greater as measured by the Solvita Maturity Test in accordance with subparagraph (g)(4)(A). (C). The Active Phase Pile has completed the Pathogen Reduction Process. (3). Conduct the Curing Phase using an Aeration System vented to an emission control system and until meeting at least one of the following criteria: (A). For a minimum of 40 consecutive calendar days after the end of the Active Phase. (B). The Curing Phase Pile has a Compost Maturity Index of 6.0 or greater as measured by the Solvita Maturity Test in accordance with subparagraph (g)(4)(A). (C). The Curing Phase Pile respiration rate is below ten (10) milligrams of oxygen consumed per gram of volatile solids per day as measured by direct respirometry in accordance with subparagraph (g)(4)(B). (4). Vent the exhaust from the Enclosure and the Aeration System to an emission control system designed and operated that, either: (A). Meets a Control Efficiency equal to or greater than 80 percent, by weight, for VOC emissions and equal to or greater than 80 percent, by weight, for ammonia emissions, as compared to one of: (i). Inlet emission rates for VOC and ammonia, respectively, to the emission control system; (ii). Baseline Emission Factors of 1.78 pounds of VOC per ton of Throughput and 2.93 pounds of ammonia per ton of Throughput, respectively; or (iii). Operation-specific Baseline Emission Factors for VOC and ammonia, respectively, if submitted by the owner or
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		operator and approved by the Executive Officer to represent the uncontrolled emission factors of the Co-Composting Operation; or (B).Does not exceed 0.35 lbs VOC emissions per ton of Throughput and does not exceed 0.58 lbs ammonia emissions per ton of Throughput. (5). Demonstrate compliance with paragraph (d)(4) by source testing in accordance with paragraph (g)(1) (A).Within one (1) year of startup of the emission control system; and (B).Every two (2) years thereafter. (6). In lieu of complying with paragraphs (d)(1) through (d)(5), the owner or operator of an Existing Small-Capacity Co-Composting Operation may select the Existing Small-Capacity Co-Composting Operation Alternative in accordance with subdivision (e). (7). In lieu of complying with paragraphs (d)(1) through (d)(5), the owner or operator of a Publicly-Owned Small-Capacity Co-Composting Operation may select the Publicly-Owned Small-Capacity Co-Composting Operation Alternative in accordance with subdivision (f).
SJVAPCD Rule 4565	Operators of composting/co-composting facilities with throughputs less than 20,000 wet tons per year	1. Implement at least three of Class One mitigation measures, or 2. Implement at least two Class One mitigation measures in addition to one Class Two mitigation measures for active composting
	Operator of composting/co-composting facilities with throughputs at least 20,000 wet tons per year but less than 100,000 wet tons per year	1. Implement at least four of Class One mitigation measures, or 2. Implement at least three Class One mitigation measures in addition to one Class Two mitigation measure on active composting processes
	Operators of composting/co-composting facilities with throughputs at least 100,000 wet tons per year	1. Implement at least four Class One mitigation measures in addition to one Class Two mitigation measures for active composting, or 2. Implement at least two Class One mitigation measures in addition to one Class Two mitigation measures for active composting and one Class Two mitigation measure for curing composting
	Class One Mitigation Measures	
	1.	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.

	2.	Maintain a minimum oxygen concentration of at least five percent (5%), by volume, in the free air space of every active and curing compost pile.
	3.	Maintain the moisture content of every active and curing compost pile between 40% and 70%, by weight.
	4.	Manage every active pile such that the initial carbon to nitrogen ratio of every pile is at least twenty (20) to one (1).
	5.	Cover all active compost piles within 3 hours of each turning with one of the following: a waterproof covering; at least six (6) inches of finished compost; or at least six (6) inches of soil.
	6.	Cover all curing compost piles within 3 hours of each turning with one of the following: a waterproof covering; at least six (6) inches of finished compost; or at least six (6) inches of soil.
	7.	Implement an alternative Class One mitigation measure(s) not listed above that demonstrates at least a 10% reduction, by weight, in VOC emissions.
	Class Two Mitigation Measures	
	1.	Conduct all active composting in aerated static pile(s) vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.
	2.	Conduct all active composting in an in-vessel composting system vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.
	3.	Conduct all curing composting in aerated static pile(s) vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.
	4.	Conduct all curing composting in an in-vessel composting system vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.
	5.	Implement an alternative Class Two mitigation measure(s) not listed above that demonstrates at least 80% reduction, by weight, in VOC emissions.
EPA	CARB and EPA do not contain rules limiting emissions from composting operations.	
CARB		

Survey of Permits issued for Dairy Manure Composting ($\leq 20,000$ tons/yr) or Similar Operation

SJVAPCD³

Facility Name Permit Number	Throughput (wet-ton/yr)	VOC and NH ₃ Control
Zonneveld Dairies – 1 & 2 C-10227	16,000	1. Comply with Rule 4565
Bakersfield City Wood Site S-2843-13	19,999	1. Comply with Rule 4565
Rankin Field S-9033-1-0	20,000	1. Comply with Rule 4565*
JDS Ranch S-8824-1	15,000	1. Comply with Rule 4565*

*Please note, although the facilities originally proposed to control emissions through a finished compost cover over the active and curing phases, none of the facilities have utilized a compost cover. Therefore, a finished compost cover won't be considered as Achieved in Practice.

³ Only commercial dairy manure composting operations are included in this survey.

SCAQMD⁴

SCAQMD has permits for co-composting facilities, but does not currently have any permitted commercial manure composting facilities. However, the control technology implemented at these facilities will be listed as consideration for Technologically Feasible options.

Facility Name Permit Number	Type and Processing Limits	VOC and NH ₃ Control
Las Virgenes Municipal Water District	Co- Composting (Biosolids)	None Identified
Agua Mansa MRF, LLC G46480 & G46481	Green and Food Waste Composting	1. Food waste not designated for immediate mixing shall be stored within the material recovery facility (MRF)/Transfer building not longer than 48 hours.

Puget Sound Clean Air Agency (PSCAA) (Washington State)²

PSCAA has permits for co-composting facilities, but does not currently have any permitted commercial manure composting facilities. However, the control technology implemented at these facilities will be listed as consideration for Technologically Feasible options.

Facility Name Permit Number	Type and Processing Limits	VOC and NH ₃ Control
Misich Farms 18656	Co-Composting	1. Within 4 hours of receipt, the received yard debris, horse stall waste, dairy manure, land clearing debris, clean wood waste, pallets, bark, wood chips, sawdust, soil and sod are to be mixed with bulking agents until a Carbon to Nitrogen ratio of 30:1 is achieved, then, within 48 hours, added to the compost pile and covered with more mature compost.

Olympic Region Clean Air Agency (ORCAA) (Washington State)²

Per information obtained from the permitting staff at ORCAA, the following table lists the permitted co-compost/manure composting facilities in ORCAA's jurisdiction, but does not currently have any permitted commercial manure composting facilities. However, the control technology implemented at these facilities will be listed as consideration for Technologically Feasible options.

Facility Name Permit Number	Type and Processing Limits	VOC and NH ₃ Control
City of Port Angeles Compost Facility 95-NOC-681	Co-Composting	1. 350 ft long by 70 ft wide composting building, which is open on three sides. 35,000 ft ² of paved area including area within the composting building. Eight composting bays each equipped with its own aeration system with blowers rated at 300 cfm. 2. Composting performed in composting building only.

⁴ Only co-composting operations with an unspecified throughput or a permitted throughput of ≤ 20,000 wet-tons/yr are included in this survey.

		3. Compost piles shall be aerated either by the forced air aeration system or by turning as necessary to avoid anaerobic conditions in the piles and odors.
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Yolo-Solano Air Quality Management District (YSAQMD) ²

Facility Name Permit Number	Type and Processing Limits	VOC and NH ₃ Control
Northern Recycling Compost P-64-09(a2)	Green and Food Waste Composting (10,950 tons/yr of mixed waste)	1. Optional use of open windrow composting, biocover with positive ASP, or ECS Compost System with negative ASP vented to a biofilter.

Survey of Potential Control Options

VOC and NH₃ control options listed below are potentially applicable to the dairy manure composting operation in this project. Therefore, these will be considered in this analysis.

- SJVAPCD Rule 4566 *Organic Material Composting Operations*
- SCAQMD Rule 1133.3 Emission Reductions from Composting Operations

Pursuant to section 4.2.1.1 of District Rule 4566, composting operations that are subject to District Rule 4565 are exempt from all requirements of District Rule 4566. As seen in *Section VIII Compliance Determination Rule 4566*, the dairy manure composting operation in this project is subject to District Rule 4565. Therefore, requirements of District Rule 4566 will be eliminated from this analysis.

In Addition, pursuant to Section (g) of SCAQMD Rule 1133.3 Emission Reductions from Composting Operations, composting facilities subject to SCAQMD Rule 1133.2 are exempt from the provisions of SCAQMD Rule 1133.3. Since the definition of co-composting in SCAQMD Rule 1133.2 applies to the manure composting operation in this project, requirements of a SCAQMD Rule 1133.3 will not be considered in this analysis.

Achieved-in-Practice Determination

After reviewing the information above, current achieved in practice VOC and NH₃ emissions control standards are:

- Implement at least three Class One mitigation measures from Table 2 of District Rule 4565, or implement at least Two Class One mitigation measures in addition to one Class Two mitigation measure for active composting.

Technologically Feasible Control Alternatives

After reviewing the information above, current technologically feasible VOC and NH₃ emissions control standards are:

- Composting in enclosure venting to a scrubber, or equivalent (active and curing) – 99% overall capture and control

- Composting in enclosure venting to a thermal/catalytic incinerator – 98% overall capture and control
- Composting in enclosure venting to an activated carbon system, or equivalent (active and curing) – 95% overall capture and control
- Positively aerated static piles with Gore Cover, or equivalent (active and curing) – 80% overall capture and control

b. Step 2 – Eliminate technologically infeasible options

Thermal/Catalytic Incineration System

Thermal or catalytic oxidation is listed as a technologically feasible control option for VOC in District guideline 6.4.9. However, organic composting can generate significant amounts of NH₃ along with the VOC. NH₃ is a potential source of NO_x emissions if it is not removed before the oxidation of VOC or treated (as NO_x) after the oxidation of VOC. As a result, the thermal oxidizer would also require the use of either a wet scrubber to remove the NH₃ prior to entering the thermal/catalytic oxidizer, or a reducing catalyst (e.g. similar to SCR) after the thermal/catalytic oxidizer capable of reducing the NO_x to N₂. Thermal or catalytic incineration is not an ideal technology to control VOC emissions from an organic composting operation as there is a potential for large amount of collateral NO_x emissions due to the presence of large amounts of NH₃. Thermal or catalytic oxidation will be removed from consideration for this class and category of source at this time.

c. Step 3 – Rank remaining options by control effectiveness

Rank	Control Option	% VOC Control	% NH ₃ Control	Achieved in Practice
1	Composting in enclosure venting to a scrubber, or equivalent (active and curing phases)	99	99	No
2	Composting in enclosure venting to an activated carbon system, or equivalent (active and curing phases)	95	95	No
3	Positively aerated static piles with Gore Covers, or equivalent (active and curing phases)	80	80	No
4	Compliance with mitigation measures from District Rule 4565 requirements	10	10	Yes

d. Step 4 – Cost Effectiveness Analysis

Option #1 - Enclosed building vented to a scrubber (99% control of VOC and NH₃)

An enclosed building that vent to a scrubber can achieve 99% control for VOC and NH₃ emissions; therefore, a Multi-Pollutant Cost Effectiveness Threshold (MCET) will be performed to determine if this control option is cost effective.

The District does not have a cost effective threshold for NH₃ emissions; however, NH₃ forms ammonium nitrate in the atmosphere, which is a precursor for PM₁₀. Therefore, the PM₁₀

cost effectiveness threshold (\$13,700/ton-reduced) will be used as a surrogate value for the NH₃ cost effectiveness threshold.

Uncontrolled Emissions from S-10518-1	
VOC	5,000 lb/yr ⇒ 2.5 ton/year
NH ₃	30,598 lb/yr ⇒ 15.3 ton/year

Emissions Reduction (99% control)	
VOC	4,950 lb/yr ⇒ 2.5 ton/year
NH ₃	30,292 lb/yr ⇒ 15.1 ton/year

Annual Operating Cost:

Pursuant to the District Policy APR 1305, the equivalent annual cost will be calculated using the capital recovery equation, as shown below:

$$A = P \left(\frac{i(1+i)^n}{(1+i)^n - 1} \right)$$

Where,

- A = Equivalent annual control equipment capital cost
- P = Present value of the control equipment, including installation cost
- I = Interest rate (generally assumed to be 6%, unless the applicant demonstrates that a different rate is more representative of the specific operation)
- n = Equipment life (generally assumed to be 10 years, unless the applicant demonstrates that a different rate is more representative of the specific operation)

Thus, Annualized capital cost with an interest rate of 6% and an equipment life of 10 years can be streamlined as follows:

$$A = P \left(\frac{(0.06(1+0.06)^{10})}{(1+0.06)^{10} - 1} \right) = 0.1359(P)$$

Cost Estimate to Enclose Composting Operations

Capital Cost = \$300/wet ton (2017 estimate from Brian Fuchs, GORE – project C-1171609)
Operational Cost = \$25/wet ton (2017 estimate from Brian Fuchs, GORE – project C-1171609)

The capital and operational cost estimates were collected in 2017. Therefore, these estimates have been adjusted to 2026 dollars to account for inflation using the U.S. Bureau of Labor Statistics website (https://www.bls.gov/data/inflation_calculator.htm).

Adjusted Capital Cost = \$408.57/wet ton
Adjusted Operational Cost = \$34.05/wet ton

Thus,

Cost Estimate (\$/wet-ton)		Annual Throughput (wet-ton/yr)	Capital Cost (\$)	Annualized Capital Cost (\$/yr)	O&M (\$/yr)	Total Cost (\$/yr)*
Capital Cost	408.57	19,999	8,170,991	1,110,438	-	1,791,404
Operational Cost	34.05		-	-	680,966	

* Annualized Capital Cost + O&M

MCET Calculation:

The MCET is calculated according to the following equation:

$$\text{MCET} = \sum (\text{ton emission reduction pollutant}) \times (\text{cost effectiveness threshold pollutant})$$

Pollutant	Controlled Emissions (ton/year)	Cost Threshold (\$/ton-reduced)	MCET (\$/year)
VOC	2.5	27,100	67,750
NH ₃	15.1	13,700	206,870
Total			\$274,620

The cost of a fully enclosed system vented to a wet scrubber (\$1,791,404/yr) is greater than the MCET threshold of \$274,620/year. Therefore, fully enclosing the operation and venting to a wet scrubber is not cost-effective.

Option #2 - Enclosed building vented to an activated carbon system (95% control of VOC and NH₃)

This option requires that the stockpiles be fully enclosed and vented to an emissions control device. The cost to enclose the stockpiles will be the same as calculated in the above analysis for an enclosed building vented to a scrubber (\$1,791,404/yr) and the control efficiency and emission reductions will be less. Therefore, this option will be not be cost-effective.

Option #3 - Positively aerated static piles with Gore Covers (80% control of VOC and NH₃)

Positively aerated static piles with a Gore Covers achieve 80% control for VOC and NH₃ emissions. This type of unit will control both VOC and NH₃ emissions; therefore, a Multi-Pollutant Cost Effectiveness Threshold (MCET) analysis will be performed to determine if this control option is cost effective. As previously mentioned, the PM₁₀ cost effectiveness threshold will be used as a surrogate value for the NH₃ cost effectiveness threshold.

Uncontrolled Emissions from S-10518-1	
VOC	5,000 lb/yr ⇒ 2.5 ton/year
NH ₃	30,598 lb/yr ⇒ 15.3 ton/year

Emissions Reduction (80% control)	
VOC	4,000 lb/yr $\Rightarrow$ 2.0 ton/year
NH ₃	24,478 lb/yr $\Rightarrow$ 12.2 ton/year

Annual Operating Cost – Positive ASP with Gore Cover:

Capital Cost = \$9,750,000 (from project C-1171609)

Operational & Maintenance Cost = \$625,000 (from project C-1171609)

The capital and operational cost estimates were collected in 2017. Therefore, these estimates have been adjusted to 2026 dollars to account for inflation using the U.S. Bureau of Labor Statistics website (https://www.bls.gov/data/inflation_calculator.htm).

Adjusted Capital Cost = \$13,278,635

Adjusted Operational & Maintenance Cost = \$851,194

Thus,

Cost Estimate (\$)		Annualized Capital Cost (\$/yr)	O&M (\$/yr)	Total Annual Cost (\$/yr)
Equipment	13,278,635	1,804,566	851,194	2,655,760
Construction			-	

MCET Calculation:

The MCET is calculated according to the following equation:

$$\text{MCET} = \sum (\text{ton emission reduction pollutant}) \times (\text{cost effectiveness threshold pollutant})$$

Pollutant	Controlled Emissions (ton/year)	Cost Threshold (\$/ton-reduced)	MCET (\$/year)
VOC	2.0	27,100	54,200
NH ₃	12.2	13,700	167,140
Total			\$221,340

The cost of positively aerated static piles with an engineered cover (\$2,655,760/yr) is greater than the MCET threshold of \$221,340/year. Therefore, operating positively aerated static piles with an engineered cover is not cost-effective.

Option #4 – Compliance with District Rule 4565 Requirements

The applicant has proposed this option. In addition, cost analysis is not required for Achieved in Practice options. Therefore, a cost effectiveness analysis is not required, and no further discussion is required.

e. Step 5 – Select BACT

BACT for VOC and NH₃ is satisfied with implementing at least three Class One mitigation measures from District Rule 4565, or implementing at least two Class One mitigation measures in addition to one Class Two mitigation measure. The facility has proposed to implement three Class One mitigation measures, hence BACT is satisfied.

APPENDIX C

HRA Summary

San Joaquin Valley Air Pollution Control District

Health Risk Assessment Summary

Facility Name: Edwin Brasil Dairy Composting
Facility ID, Project #: S-10518, #1260394

This Health Risk Assessment (HRA) Summary is provided as an attachment to the Engineering Evaluation supporting the Authority to Construct permitting project.

1. Overview

Under the District RMR policies (APR-1905 and APR-1906), the potential public health impacts associated with air toxic emissions from the proposed project were evaluated. This review ensures the project complies with the District's health risk policies and that the evaluation is protective of nearby residents, workers, and sensitive populations such as schools and homes.

Using conservative, health-protective assumptions and state-recommended risk assessment methods, the District determined that the project's potential health risks are **below established significance thresholds**.

The RMR process includes:

- a) Characterizing and estimating the project's potential air emissions from pollutants with associated health risk values as defined by the California Office of Environmental Health Hazard Assessment (OEHHA).
- b) Performing a screening level "Prioritization" using the prioritization methodology outlined in the California Air Pollution Control Officers Association (CAPCOA) Facility Prioritization Guidelines. A facility's priority status is determined using the prioritization thresholds listed in District Policy APR-1905. If the post-project cumulative facility increase in prioritization score is equal to or less than 1, the project is approvable with no further assessment. If a facility's total prioritization score exceeds 1, then an HRA is required.
- c) If applicable, performing an HRA using air dispersion modeling and risk assessment default inputs listed in District Policy APR-1906 and the District's Modeling Guidance. These methods use conservative and health protective assumptions consistent with statewide risk assessment guidance and are designed for protection of public health when estimating potential impacts.
- d) Determine whether the project triggers Toxic Best Available Control Technology (TBACT). For new or modified emission units that exceed a cancer risk of one in a million, TBACT must be implemented for the permit.

2. Executive Summary

The post-project cumulative facility prioritization score was greater than one. Therefore, an HRA was required. Based on the results of the health risk assessment (See Health Risk Evaluation Results table below), the District determined that the

project's potential health impacts are **below established significance thresholds**.

1. Table 1. Health Risk Evaluation Results

Permit #	Maximum Individual Cancer Risk (in a million)	Chronic Hazard Index	Acute Hazard Index
S-10518-1-0	0.03	0.02	0.32
S-10518-1-0 (PED Compost Loadout) ¹	0.002 ¹	0.00 ¹	0.00 ¹
Incremental Project Totals	0.03	0.02	0.33
Post-Project Cumulative Facility Totals	0.03	0.02	0.33
Significance Thresholds	≤ 20	< 1	< 1
Below Significance Threshold	Yes	Yes	Yes

1. Permit Exemption to be determined by Permit engineer.

The project is approved **without Toxic Best Available Control Technology (T-BACT)**.

3. Air Toxic Emissions

Air toxics emissions for this project were calculated using the following methods:

- Particulate matter emissions from this proposed operation (Compost Transfer and PED Loadout) were provided by the Permit Engineer. These emissions were speciated into air toxics using emission factors derived from the 2011 report, Biosolids Co-Composting VOC and Ozone Formation Study.
- Volatile organic compound emissions from this proposed operation (Compost Curing and Active Phases) were provided by the Permit Engineer. These emissions were speciated into air toxics using emission factors derived from a 1997 source test conducted on the Griffith Park Biosolids Composting Plant.

Table 2. Estimated Potential Air Toxics from Project

Pollutant	Hourly Emissions (lbs/hr)	Annual Emissions (lbs/yr)
1,1,1-TCA	0.00	0.93
1,1-DiChloroethane	0.00	1.24
Aluminum	0.01	0.36
Arsenic	0.00	0.00
Benzene	0.00	0.21
Cadmium	0.00	0.00
Carbonyl Sulfide	0.00	5.13
Chromium	0.00	0.00
Cobalt	0.00	0.00
Copper	0.00	0.01

Hexavalent Chromium (VI)	0.00	0.00
CS2	0.00	4.68
Lead	0.00	0.00
Manganese	0.00	0.02
MEK	0.03	42
Mercury	0.00	0.00
Methyl Chloride	0.00	0.25
Methylene Chloride	0.02	30
Nickel	0.00	0.00
Perc	0.00	2.08
Phosphorus	0.02	0.66
Selenium	0.00	0.00
Styrene	0.00	1.07
Toluene	0.00	0.62
Vinyl Acetate	0.01	7.35
Zinc	0.00	0.02
Ammonia	19.5	27,538

4. Health Risk Assessment (HRA) and Modeling Details

Since the facility's cumulative prioritization score was greater than 1, pursuant to District risk policies, a health risk assessment was required. The air dispersion modeling and health risk assessment were performed using the default settings outlined in District Policy APR-1906 and the District's Modeling Guidance. The HRA included (as appropriate):

- Potential air toxics increases from the proposed project,
- State-approved air dispersion modeling to predict how pollutants spread and disperse in the environment,
- Evaluating potential exposure at nearby residences, workplaces, and other sensitive locations,
- Applying health risk values developed by the California Office of Environmental Health Hazard Assessment (OEHHA),
- Using conservative assumptions including operation at maximum permitted emission rates and conservative receptor exposure assumptions to ensure public health protection

These methods are consistent with District policy and statewide risk assessment guidance and are designed for protection of public health when estimating potential impacts. The project's specific modeling parameters are identified below.

Meteorological Data

Consistent with APR-1906, a refined dispersion modeling analysis was performed using the U.S.D. EPA's AERMOD model. Detailed stack parameters and site-

specific meteorological data for Visalia (Rural) from 2007 to 2010 were used to predict how emissions disperse and impact surrounding receptors. The selected meteorological dataset represents the nearest representative station to the project site and is consistent with District modeling guidance. The modeled concentrations were then evaluated using state-approved health risk factors to calculate cancer risk and acute and chronic indices for the project.

Air Dispersion Modeling Parameters

The AERMOD model is utilized for air dispersion modeling for HRA and AAQA purposes. The parameters outlined below were used for the analysis:

Area Source Parameters					
Unit ID	Unit Description	Release Height (m)	X-Length (m)	Y -Length (m)	Area (m²)
1-0	Compost Active and Curing Phases (VOC)	1	191	315	60,286
1-0	Compost Transfer (PM10)	1	192	91	17,430
PED	Compost Loadout (PM10)	1	192	91	17,430

APPENDIX D

AAQA Summary

San Joaquin Valley Air Pollution Control District

Ambient Air Quality Analysis Summary

Facility Name: Edwin Brasil Dairy Composting
Facility ID, Project #: S-10518, #1260394

1. Overview

The District evaluated the proposed project's potential impact on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR 1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51).

The District applies a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO₂ standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL. This progressive framework ensures that potential impacts are evaluated conservatively at the screening stage and refined as necessary to provide a thorough and health-protective assessment.

The modeling analysis predicts the maximum ground-level air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and detailed source parameters, including emission rates.

2. Ambient Air Quality Analysis (AAQA) Results Summary

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	N/A	Pass	N/A	N/A
NO _x	Pass	N/A	N/A	N/A	Pass
SO _x	Pass	N/A	N/A	Pass	Pass
H ₂ S	Pass	N/A	N/A	N/A	N/A
PM ₁₀	N/A	N/A	N/A	Pass	Pass
PM _{2.5}	N/A	N/A	N/A	Pass	Pass
Ozone	Pass	N/A	Pass	N/A	N/A

The project is **not expected to cause or contribute to an exceedance of any applicable NAAQS or CAAQS, nor does it exceed applicable Significant Impact Levels (SILs).**

AAQA Clarifications

- The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.

- Modeled PM₁₀ concentrations were below the District SIL for fugitive sources of 10.4 µg/m³ for the 24-hour average concentration and 2.08 µg/m³ for the annual concentration.
- Modeled PM_{2.5} concentrations were below the District SIL for fugitive sources of 2.5 µg/m³ for the 24-hour average concentration and 0.63 µg/m³ for the annual concentration.

AAQA Monitoring Site

Ambient air concentrations of criteria pollutants are measured at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following monitoring stations were used for this evaluation:

Monitoring Stations				
Pollutant	Station Name	County	City	Measurement Year
PM _{10/2.5}	Visalia-W. Ashland Ave	Tulare	Visalia	2023

3. Meteorological Data & Air Dispersion Modeling Parameters

Dispersion modeling was performed using the U.S. EPA's AERMOD model. Detailed stack parameters and site-specific meteorological data were used to predict how emissions disperse. The meteorological data and modeling parameters utilized for the project are described below.

Meteorological Data

Consistent with APR-1906, a refined dispersion modeling analysis was performed using the U.S. EPA's AERMOD model. Detailed stack parameters and site-specific meteorological data for Visalia (Rural) from 2007 to 2010 were used to predict how emissions disperse and impact surrounding receptors. The selected meteorological dataset represents the nearest representative station to the project site and is consistent with District modeling guidance.

Air Dispersion Modeling Parameters

The AERMOD model is utilized for air dispersion modeling for AAQA purposes. The parameters outlined below were used for the analysis:

Area Source Parameters					
Unit ID	Unit Description	Release Height (m)	X-Length (m)	Y -Length (m)	Area (m ²)
1-0	Compost Active and Curing Phases (VOC)	1	191	315	60,286
1-0	Compost Transfer (PM10)	1	192	91	17,430
PED	Compost Loadout (PM10)	1	192	91	17,430

APPENDIX E

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

$QNEC = PE2 - PE1$, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{\text{quarterly}} = PE2_{\text{annual}} \div 4 \text{ quarters/year}$

$PE1_{\text{quarterly}} = PE1_{\text{annual}} \div 4 \text{ quarters/year}$

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NOx	0	0	0
SOx	0	0	0
PM10	1.75	0	1.75
CO	0	0	0
VOC	1,125	0	1,125