

APPENDIX A

Draft New Rule 4566 (Composting and Related Operations)
Summary of Significant Written Comments
and District Responses from
2008 Draft Rulemaking Process

September 22, 2010

**SUMMARY OF SIGNIFICANT WRITTEN COMMENTS AND DISTRICT RESPONSES
FROM 2008**

District staff appreciates the comments received in 2008 regarding the first round of workshops and thanks all of the participants for continuing to provide inputs during the District's rulemaking process. District staff has reviewed and considered all of the comments received and has incorporated many of the comments into the draft rule, staff report, and the comments and responses below, as appropriate.

Comments from United States Environmental Protection Agency (EPA):

- 1) **COMMENT:** Please explain how the definitions of Active Composting, Curing Composting, and Finished Composting were established, including references to any studies they rely on. Please explain how the reference points within each phase are equivalent and how the different test methods cited clearly delineate compost pile respiration. Please explain the choice of reference points differentiating each phase from the other.

RESPONSE: Please refer to Section III.B. of the staff report.

- 2) **COMMENT:** Section 3.45-VOC Control Device. Please specify minimum allowable capture and control efficiency (e.g., 80%), associated test methods, or acceptable operating practices which may limit the need for ARB/EPA review and approval of VOC control devices.

RESPONSE: The definition for VOC control device would include 80% capture and control efficiency. Please refer to the draft rule for information about test methods.

- 3) **COMMENT:** Section 5.0. Where a timeframe for compliance is specified, please add the requirement that a source implement the control measure "as soon as possible, but no later than the compliance timeframe."

RESPONSE: Draft rule requiring that operator implement the control measure "within" a timeframe would be enforceable for compliance purposes. The phrase "as soon as possible" does not designate an enforceable time period.

- 4) **COMMENT:** The staff report should demonstrate that the rule implements Reasonably Available Control Technology (RACT) for all major sources pursuant to section 182(b)(2) and elsewhere in the Clean Air Act. This RACT analysis should systematically consider all possible controls for the sources and explain why rejected controls are not technically and/or economically feasible.

RESPONSE: Please refer to Appendix C for the cost-effectiveness analysis and a discussion of how the proposed controls meet RACT requirements.

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- 5) **COMMENT:** Covering organic waste is required throughout the rule. While covering may be an odor control measure and minimize immediate VOC emissions, it seems that covering may promote inefficient anaerobic composting while increasing and delaying VOC emissions, rather than minimizing or destroying VOC emissions. Please explain how covering practices produce a net reduction in VOC emissions

RESPONSE: Based on results from the compost study that was conducted by San Diego State University Research Foundation in 2009, use of the finished compost cover shows significant emissions reduction from compost piles. Therefore, staff is recommending that stockpiles be removed and processed within three days or otherwise, covered within three days to minimize emissions. The covering acts as a biofilter which reduces emissions through biological actions, as explained in the staff report.

- 6) **COMMENT:** Please explain the testing timeframes chosen, particularly in relation to ensuring continuous compliance relative to a source's size, processing capacity and VOC mitigation measures.

RESPONSE: The testing timeframe requirement for oxygen and moisture content is consistent with Rule 4565 for composting operations. The draft provision also allows operators to conduct the measurements at a different testing frequency, if the APCO determines that it is needed.

- 7) **COMMENT:** We are concerned whether a portable hydrocarbon analyzer can discriminate accurately 0.45 ppm above background hydrocarbon levels. Please show that appropriate analysis equipment is likely to be available and can be calibrated for the target analytes.

RESPONSE: The portable hydrocarbon analyzer is commercially available which have detection levels of concentrations above 0.45 ppmv. The rule provision does not require that the portable hydrocarbon analyzer actually measure at 0.45 ppmv. Compliance would be based on whether the test is above or below that limit, i.e., whether emissions are detected or not.

- 8) **COMMENT:** Please limit the Director's discretion by providing additional specificity and criteria within the rule.

RESPONSE: The intent of these provisions are to provide operators the flexibility to use more economically feasible alternative methods, if approved by the APCO and provided that an alternative method is as indicative of system performance as required in the rule. Relying solely on source testing is an unnecessary burden on operators when monitoring can show compliance.

- 9) **COMMENT:** Please explain the parameters concerning biofilter performance and provide citations for information relied upon in selecting these parameters. Why

does Rule 4566 allow a temperature between 70 - 110 degrees F, while the SCAQMD Technology Assessment for Rule 1133 (March 22, 2002, see pages 3-4 to 3-5) states that temperatures greater than 105 degrees F will damage microorganisms inhabiting the biofilter.

RESPONSE: Most of the decomposition that takes place in a compost pile is mesophilic. Base on the definition for mesophilic, the temperature range for which bacteria is active is between 40-110 degrees F and the temperature where bacteria thrive is between 70-90 degrees F. District staff believes that the proposed range would be adequate and consistent with Rule 4565.

- 10) **COMMENT:** Please explain why backpressure in a biofilter is not monitored or tested to help maintain and determine the unit efficacy.

RESPONSE: Backpressure is not as reliable an indicator of system performance as the parameters indicated in the rule. For example, a lower backpressure may not be a result of light filter loading, but could just indicate cracks have formed in the filter material, that can be detected with visual inspection.

- 11) **COMMENT:** Please specify operational requirements and emission limits to minimize the need for additional ARB/EPA review. Conversely, please explain why such provisions describing the technologies are needed in lieu of establishing appropriate standards either now or as needed in the future.

RESPONSE: Given that the technologies may vary according to operations and equipment specifications, District staff believes that it would be appropriate to establish standards at the time that a novel system is presented to and reviewed by the District and EPA. District staff will consider incorporating any suggested guidelines from EPA in lieu of EPA approval.

- 12) **COMMENT:** Please justify the need for less than annual source testing. Depending on the size, throughput, and control system at the facility, annual source testing may be indicated. In the case of a biofilter, consideration should be given to the seasonal timing and the operational efficiency of the system.

RESPONSE: Annual testing as opposed to once every two years increases the compliance costs of the rule to a level that may render the implementation of the required mitigation measures to be not economically feasible. Staff believe the proposed operating and monitoring requirements specified in the rule for biofilters and non-biofilters type of VOC control devices are adequate to compliment the specified source testing frequency for these controls. Periodic monitoring of the filter parameters actually provides a better indication of system integrity than an annual source test and can be conducted with minimal cost.

- 13) **COMMENT:** Please revise this section to include EPA guidance and test methods for determining VOC capture efficiency, Methods 204A-F. If EPA capture efficiency

test methods are infeasible, please explain why and discuss what alternative methods will produce valid and reliable results.

RESPONSE: The intent is to provide operators with the flexibility for monitoring the capture efficiency of the control system in a more cost effective manner. Therefore, the methods as described in the rule are adequate to produce reliable results.

Comments from California Air Resources Board (ARB):

- 1) No comments were provided at the time.

Written Comments from Stakeholders

The following stakeholders submitted the written comments:

A Plus Materials Recycling, Inc. (APMRI)
Association of Compost Producers (ACP)
CalRecycle, formerly the California Integrated Waste Management Board (CIWMB)
California League of Food Processors (CLFP)
Chemical Waste Management, Inc. (CWMI)
City of Bakersfield (CoB)
City of Corcoran (CoC)
Dennis Tristao (DT)
City of Modesto (CoM)
City of Tulare (CoT)
City of Visalia, Administration (CoV,A)
City of Visalia, Public Works Department (CoV,PWD)
College of the Sequoia (CoS)
Community Recycling & Resource Recovery, Inc. (CRRRI)
Consolidated Waste Management Authority (CWMA)
Dr. Peter Green, UC Davis (DPG)
Engineered Compost Systems (ECS)
Fresno County Public Works & Planning (FCPWP)
Kern County Waste Management Department (KCWMD)
Maximum Engineering, Inc. (MEI)
Merced County Regional Waste Management Authority (MCRWMA)
Metro Recycling Corporation (MRC)
San Joaquin County (SJC)
Stanislaus County (SC)
Stopwaste.org (S)
Tulare County Compost & Biomass, Inc., Gary C. Birdsong (TCCBI,B)
Tulare County Compost & Biomass, Inc., Ronald J. Helland (TCCBI,H)
Tulare County Compost & Biomass, Inc., John Jones (TCCBI,J)
Tulare County Compost & Biomass, Inc., Susan K. Shannon (TCCBI,S)
Wilson Ag (WA)

SUMMARY OF SIGNIFICANT WRITTEN COMMENTS FROM 2008

- 1) **COMMENT:** The language infers that a Chip and Grind Facility may inadvertently compost organic material by stockpiling. If the operator demonstrates the active composting is not occurring by temperature monitoring would they be exempt from the Rule? Stockpiles of wood waste collected at most landfill facilities contain small amounts of moisture (typically less than 20 percent) and rarely ever reach conditions suitable for composting. Materials generated in the construction and demolition industry is primarily dirt and inert materials with less than 5% total organic carbon. In addition this material has a moisture content of less than 15%. (APMRI, KCWMD, MRC, MEI)

RESPONSE: District staff concurs with stakeholders' comment that the moisture content for wood material is typically lower and less likely to undergo inadvertent decomposition. Therefore, any facility that processes only wood material would be exempt from the requirements of the draft rule.

- 2) **COMMENT:** The title of the rule (Draft Rule 4566 - Organic **Waste** Operations) suggests staff views the organic materials targeted by this rule as "wastes" and not as resources. (S)

RESPONSE: Please see the draft rule for changes.

- 3) **COMMENT:** There are several technologies that could be employed at landfill operations to reduce VOC emissions. There is a need to more accurately quantify the impact of these emissions and more equitably include reduced landfill VOC emissions in its Staff Report and Draft Rule. (S, CRRRI)

- 4) **RESPONSE:** Stakeholder has raised several concerns and potential controls at landfill operations. The District may consider the information provided during future rulemaking projects for solid waste landfills. At this time, staff will focus on the draft provisions specifically for stockpiling organic material at these facilities.

- 5) **COMMENT:** The proposed methods of establishing the emissions inventory will contribute to much higher reported levels of VOCs than are actually emitted, by double or sometimes triple counting the material. Only the end user who initiates active composting and processes the material to create finished compost should be regulated under the proposed Rule 4566. (KCWMD)

RESPONSE: Based on staff's finding, most of the VOC emissions typically occur from stockpiles and from the first few weeks of composting. Appendix B presents the daily emission factor for a green material stockpile.

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- 6) **COMMENT:** The CEQA Report should address cumulative impacts to air quality by the adoption of this rule, particularly the potential increase in PM 2.5 from the increased diesel engine run time; PM10 from the increased dust emissions; impacts to groundwater caused by the increased disposal of organic material at the landfills; and impacts on the capacity of the solid waste facilities. (KCWMD)

RESPONSE: This rule project will look at the environmental impacts, including those mentioned, during this rulemaking process.

- 7) **COMMENT:** "Green efforts" by both manufacturers and consumers may have reduced the quantity or potency of constituents that give rise to VOCs. If such is the case, perhaps composting could once again be viably done within the SCAQMD; this could benefit both the SCAQMD and SJVAPCD with emission reductions by reducing trucking both ways between southern California and the Central Valley. (CoB)

RESPONSE: Comment noted.

- 8) **COMMENT:** The cost increase for greenwaste composting will be much more unacceptable in the public opinion than was the cost increase for biosolids composting. The revenue for biosolids ultimately comes from sewer fees and the revenue for green waste comes from refuse and recycling service fees. The two are similar in that they pay for waste removal, yet they have vastly different public perception. (CoB)

RESPONSE: Staff will consider the economic feasibility of the draft rule to ensure that the proposed requirements do not render organic material composting operations economically inoperable.

- 9) **COMMENT:** The use of exceptional management practices that are much more cost effective can greatly reduce the emission of volatile organic compounds without placing such an economic burden on the composting industry so that overall recycling is diminished. (CoS)

RESPONSE: The District supports composting as one of the alternative methods to reduce and reuse organic material. While the District is required to implement a rule for organic material management, and primarily for composting of those materials, staff will consider cost effective management practices while seeking to reduce VOC emissions. We would appreciate further information regarding the exceptional management practices that the stakeholder suggests and will consider including them as part of the mitigation measures, as provided in Table 1 of the draft rule.

- 10) **COMMENT:** It is not realistic to amortize costs over ten years, when agreements for incoming material or sales of compost are for far shorter periods. This is

particularly true for the larger facilities, which are most impacted by any threshold requirements. Even if some compost operators are able to continue doing business despite these large cost increases, the costs will be passed on to localities which rely on composting to meet AB939 requirements and to landscape and agricultural buyers who rely on composting to improve soils, increase crop yields, conserve water, and reduce greenhouse gases. (CRRI)

RESPONSE: For cost and cost effectiveness analysis, the District typically amortize the costs over ten years, which ensures relatively comparable cost-effectiveness values relative to other control measures adopted by the District. The ten-year amortization is also supported by comments from vendors, with equipment lives that could potentially be amortized from 10 to 20 years.

- 11) **COMMENT:** A facility would have to reopen their CUP, which, in addition to the time and cost related to the application process, would likely result in additional requirements and related costs. The environmental process associated with these revised permits can also be costly, especially if an EIR is required. Major capital improvements will result in a closing down of the facility for a period of time, resulting in a loss of revenue, jobs, as well as possible sources of incoming material and compost markets. (CRRRI)

RESPONSE: Please see Appendix C of the draft staff report regarding the preliminary cost analysis. While permitting costs have been considered in the cost analysis, the District staff would appreciate any additional permitting information available, such as specific requirements to modify CUPs, perform EIRs, and other information useful in assessing the economic impact of the proposed amendments.

- 12) **COMMENT:** All facilities, regardless of size, should be allowed reduced emissions through management practices that best suit their individual facility operations and potential cost impacts. Proscribed standards, even those offering a few choices, limit opportunities to reduce VOC's and likely increase costs. (CRRRI)

RESPONSE: District staff will review and consider any suggested management practices from stakeholders during the rulemaking process to ensure that the options provided, including an alternative measure, in the draft rule is feasible and cost effective to the operators. Draft rule language includes an option for an operator to employ an equivalent reduction method.

- 13) **COMMENT:** The rule requirements appear to have been developed with larger facilities in mind; stockpiles at facilities that store along with processing organic waste. Perhaps the District can consider developing a term such as "Transient Small Community Greenwaste Collection Site" with Best Management Practice identified as "roll off" containers on site with periodic loading. (CoC, DT)

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RESPONSE: An exemption has been provided for small community operated drop-off sites that meet specific criteria and are believed to have minimal air quality impact. Please see the draft rule for changes.

- 14) **COMMENT:** Commentors are concerned that the draft rule would significantly raise the cost of composting (CoT, CoV, CWMA)

RESPONSE: District staff has reviewed several potential mitigation measures and has developed a revised version of the draft rule which would consider alternative options that operators find to be most feasible to their operation. While some cost information has been provided by multiple stakeholders, more specific information in the context of the proposed draft requirements are desired to ensure that the economic impacts of the proposed requirements are fully understood.

- 15) **COMMENT:** The requirement to implement a VOC Control Device such as a biofilter, a carbon scrubber, or an incineration device, with a VOC control efficiency of at least 80% demonstrated by South Coast Air Quality Management District (SCAQMD) test method 25.3 has not been demonstrated in practice for greenwaste composting facilities. (MCRWMA)

RESPONSE: VOC control device with an overall capture and control efficiency of at least 80% by weight would be optional, per Section 5.2.4.

- 16) **COMMENT:** The Highway 59 compost facility is located at the Highway 59 landfill. The landfill has a current Title V permit issued by the SJVAPCD. Will there be additional operational and emission requirements imposed on greenwaste composting operations and greenwaste processing equipment for facilities located at sites with a Title V designation? (MCRWMA)

RESPONSE: No additional operational or emissions requirements would be expected for composting operations operated at a Title V source. Title V may impose additional monitoring, recordkeeping and reporting requirements, which will be determined when bringing the composting operation into the Title V Permit.

- 17) **COMMENT:** Greenwaste from urban collection systems typically contains incidental amounts of animal excretions. This should be allowed by definition. (CoB)

RESPONSE: The definition for organic material addresses concern for small amount of biosolids, animal manure, or poultry litter.

- 18) **COMMENT:** The composting facilities operated by the MCRWMA are “chipping and grinding” operations in addition to composting operations. Greenwaste is received Monday through Friday from curbside collection programs and may not be ground for several days or weeks if equipment is under repair. It may take over a

week's volume of ground greenwaste to generate sufficient material to construct a single windrow and begin active composting. Is the greenwaste received from collection vehicles required to comply with the Stockpile Requirements prior to the chipping and grinding operations? (MCRWMA)

RESPONSE: Operations stalled as a result of equipment repair is covered under District Rule 1100 (Equipment Breakdown). Please refer to Section 5.1 regarding rule requirements for stockpile.

- 19) **COMMENT:** Managing moisture levels at composting facilities in the hot and dry SJV is a significant operational challenge. It is not uncommon for feedstocks to often arrive on-site with moisture levels in the 30-40% range. From an air emissions point of view, a considerable amount of NOX is produced by the machines involved in increasing and maintaining moisture levels. If the initial moisture levels of the feedstock could be higher, and the final moisture levels were lower, the frequency of water application and turning could be reduced. (ECS)

RESPONSE: The moisture control level in the draft rule is consistent with District's Rule 4565 and the range mentioned above of 40-70%. Operators would only be required to monitor for moisture content once the material is processed for composting as also required in Rule 4565. District staff plans to conduct further analysis to look at the impact of NOx emissions from composting operations.

- 20) **COMMENT:** An upper temperature range of 110 degrees may not be feasible on days when ambient temperatures approach or exceed this target. (CIWMB)

RESPONSE: Please refer to EPA comment #9

- 21) **COMMENT:** If successful with the CEQA and permitting process, it could take an additional two years for design and construction necessary to implement the requirements of the proposed draft rule. Operators implementing VOC control systems should be allowed minimum of four years to be in full compliance with the proposed draft rule. This is necessary to achieve the SJVAPCD's rule development objective of achieving as much VOC emission reduction as is "expeditiously practicable". (MCRWMA)

RESPONSE: The current draft rule language recommends that operators selecting VOC control systems for their composting operations would be given up to three years to comply with the draft rule, with one year for permitting process and two years for design and construction. Operators may also choose to comply with the proposed draft requirements with the finished compost cover, or other approved equivalent mitigation measures.