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Subject: Comments to proposed Title 14 and 27 Rulemaking: Revised Proposed Regulation, Initial 15-Day Comment Period

Dear Ken,

CR&R Environmental Services (CR&R) is pleased to provide the following comments and recommendations regarding the above referenced round of Title 14 and 27 Rulemaking. We appreciate the opportunity to provide our input to the modification of this extremely important set of regulations for the State of California.

We are grateful that CalRecycle has made an effort to incorporate some of the input that you received from considerable stakeholder comments during the initial 45 day comment period. However, we still feel that there are a number of modifications that could be made to ensure this regulation reaches its full potential in providing a sensible balance between protecting public health and safety and permitting the regulated community an economically viable regulatory framework from which to operate.

GENERAL COMMENTS

Economic Analysis:

In this round of revisions, we did not see any attempt to address the economic analysis that was completed as part of the Initial Statement of Reasons (ISOR), Appendix B1. This economic analysis still does not adequately address the possible economic impacts of the proposed rule change to the compost industry. A broader based and in depth economic analysis is necessary to assess the full range of potential economic impacts to our industry. As previously stated, if we were to assume that the high end of the economic impact were valid at \$53 million per year, this represents an untenable impact to the industry that could not be readily absorbed given the current market conditions for compost.

Enforcement:

The proposed revisions still do not adequately address enforcement. Has CalRecycle done a systematic review of its existing composting regulation enforcement capabilities? Are the LEAs currently able to adequately enforce existing regulations? If not, how can we expect LEAs to enforce the more stringent regulations, as proposed? Is there adequate funding available for this enforcement? This still needs to be addressed at the top level so that all players subject to these rule changes are enforced equally under the law.

Physical Contamination Limits:

We appreciate that CalRecycle has proposed modifications to this area of the proposed regulations. Particularly, a phase-in period is both sensible and appreciated by compost operators to allow adequate time to adapt equipment and standard operating procedures to handle more stringent physical contamination limit (PCL) requirements. However, we recommend extending the operative timeline to phase in the PCL sections until **January 1, 2020**. The extension of the operative timeline will allow operators adequate time to purchase equipment and to implement operational changes at their facilities to achieve the proposed physical contamination standards in compost and digestate.

We also believe that the reduction of the PCL to 0.5% by dry weight is a step in the right direction. However, there needs to be more clarification on laboratory versus field testing methods of “verification.” Perhaps the regulation could refer to a separate, guidance document containing “approved’ field and laboratory sampling methods that CalRecycle could update from time to time.

Also, the “physical contamination limit” sections of this revision are ambiguous in a key area. In one section the language states that verification of physical contamination limits shall occur prior to the point where compost is removed from the site and that test results of samples must be received by the operator prior to removing compost from the facility where it was produced. Yet in the next section, the language states that the operator shall sample every 5,000 cubic yards of compost using a method approved by the EA. Which is it? The language as worded potentially leaves much up for LEA interpretation and could be interpreted that every load leaving the site must be lab tested to satisfy verification requirements. Proposed language modifications are provided below.

Testing Methods and Protocols:

As discussed above, the proposed revisions are still ambiguous as to testing methods and protocols. If CalRecycle intends to allow field testing to verify PCLs, this would be most welcome. However, we feel that more guidance in this area is warranted so as to give LEAs some clear direction as to “acceptable” methods of testing. We suggest that the proposed regulations be modified to refer to a separate, “California Guide to Field and Laboratory Methods for Compost and Digestate Testing,” that contains

“acceptable” field and lab sampling and testing methods. This guide could be something like a simplified version US Composting Council’s, Testing Methods for the Examination of Composting and Compost (TMECC). CalRecycle could publish and update this guide from time to time with the input of labs, academia, industry associations, and compost operators.

Chip and Grind Operations:

While there were some modifications to language in this round of edits, this section continues to be problematic. The requirement that any Chip and Grind material that is land applied meet the pathogen and PCL standards that are proposed for composted material is in effect requiring that this material be composted. We believe that very few chip and grind operators would be able to meet the proposed pathogen or PCL standards without composting, the preferred method to reduce pathogens, and screening. The same ambiguity of sampling and testing requirements discussed in “physical contamination limits” above is carried through to this section. Moreover, the only way to confirm pathogens is through laboratory testing. The minimum turnaround time for a laboratory pathogen test is 5-7 days, beyond the maximum time that chipped and ground material is permitted to remain on site. The requirement “any chipped and ground material that will be land applied must meet the maximum metal concentration and pathogen reduction requirements . . .” could be interpreted that every load leaving the site must be tested. Again, we recommend creating consistent language that eliminates any ambiguity between requirements that material leaving a site meet certain standards versus the stated minimum sampling frequency.

Land Application Definition, Physical Contamination:

We appreciate many of CalRecycle’s proposed modifications to this area of the regulations. Particularly, we appreciate clarification on the frequency and depth of permitted land application. From an operator’s perspective, we believe the net effect of the regulation is that nearly all material that would be required to meet the proposed land application standards would require composting and screening in order to meet the proposed pathogen and physical contamination and standards. If this is the intent of CalRecycle, we request that the phase in date be extended to **January 1, 2020** to allow operators to gear up for expanded composting operations. Also, we believe the net effect of the proposed regulation will virtually eliminate the “chip and grind only” operators as the only realistic way to ensure consistent compliance with the proposed pathogen reduction and 0.5% PCL is through composting and screening nearly all chip and grind and compostable material.

In Vessel Digestion Exclusions:

We believe the intent of the proposed “excluded activities” are to exempt those in-vessel digestion operations that are already subject to existing regulations to protect public health and safety. A clear example is exempting POTWs. However, there are two proposed excluded activities that warrant further inquiry. CalRecycle is proposing

that dairy and agricultural material digesters be categorically exempt from the regulation, with no limitation of size. Moreover, there are now proposed provisions that these facilities would be able to accept imported vegetative food material without limitation. Our concern is that, as written, there is a loophole that would allow potentially large scale dairy and agricultural material digesters that could accept outside vegetative food material that would not be subject to these regulations. There are several already identified permitting tiers that these operations could fall under based on the proposed volume of operation. Why are these types of facilities proposed to be exempt? Are there not equal public health and safety issues associated with these types of operations as with the other in-vessel operations that are proposed to be regulated?

Similarly, rendering facilities are proposed to be exempt from the proposed regulation. While we realize that rendering operations have their own set of regulations, it is not clear why they would be categorically excluded from these regulations considering the potential for public health and safety issues arising from in-vessel digestion of rendering material. Imagine the potential odor concerns of a large-scale in-vessel digester operation co-located at a rendering operation? There are several already identified permitting tiers that these operations could fall under based on the proposed volume of operation.

In Vessel Digestion Facility Sampling Requirements & Pathogen Reduction Standards:

We see the same ambiguity in the sampling frequency versus “operator verification” requirements as described in the Physical Contamination Limit discussion above. Is the intent to require sampling at a minimum of 5,000 cubic yards? Or as written could the combined language be interpreted that every load leaving the facility must be tested to comply with proposed PCL, pathogen, and metals standards. There also appears to be some co-mingling of terms “digestate” and “compost” throughout Article 6. Is the intent to refer to all of this material as “compost” or are there instances where the material should be referred to as “digestate?”

As we stated in our prior comments, pathogen reduction standards from section 17868.3 for “Compost” appear to be replicated in the “In-Vessel Digestion Facility” section, 17896.60. In vessel digestion facilities will achieve their own process to further reduce pathogens (PFRP) as part of the digester operations. ***No additional pathogen reduction such as windrow and/or aerated static pile time and temperature methods should be required for digestate, provided the digestate passes the proposed laboratory test for pathogens.*** This compost methodology requirement for in-vessel material is redundant and not necessary since pathogen reduction is already achieved in the digester and confirmed in the required pathogen laboratory test. This will add a redundant and potentially costly step to the processing of material for certain in-vessel digestion facilities which otherwise meet the pathogen standards and have markets for the already pasteurized yet uncomposted digestate material.

SPECIFIC LANGUAGE RECOMMENDATIONS

We offer the following specific comments and recommendations for changes to the proposed title revisions:

P.8, Line 49: Digestate Definition. Digestate is a product. Recommend: “Digestate” means the solid and/or liquid *product* remaining after organic material has been processed in an in-vessel digester, as defined in section 17896.2(a).

P. 10, Line 29: Land Application Phase-In. Phase in time should be extended to January 1, 2020. The net effect of this will require virtually all compostable materials (including chip and grind) to be composted prior to land application. Additional time will be required to get additional sites permitted and operating to handle the large increase in volume of composting that this section will require.

P. 10, Lines 31-32: Land Application Physical Contamination Limits (PCL). The requirement that PCLs are met at the time of land application puts an undue burden on the operator for potential frequent PCL testing. This requirement should be tied back to meeting satisfactory testing results at the frequencies prescribed in section § 17868.1. With a 0.5% PCL limit, the only way to process virtually all compostable materials will be composting and screening.

P. 10, Lines 33-36: Land Application Metals and Pathogen Density Limits: The requirement that pathogen density limits are met at the time of land application puts an undue burden on the operator for potential frequent pathogen testing. This requirement should be tied back to meeting satisfactory testing results at the frequencies prescribed in section § 17868.1

P. 16, Line 30: Agricultural Material Composting Operations: The proposed change appears to be if operation is limited to Agricultural Material, there is unlimited quantity under a Notification Tier permit. We think “unlimited quantity” should be limited to onsite agricultural operations and material. As written there is no limit on massive scale agricultural composting operations, under a notification tier permit, that could compost agricultural material from both on-site and off-site sources. Recommend change to: "If their feedstock is limited to agricultural material generated from **on-site** agricultural operations, agricultural material composting operations may handle unlimited quantity of agricultural material on the site from which that the material is generated and may sell or give away any or all compost they produce. If the material is generated off-site and transferred to the compost operation site, then the operation is subject to Article 2, 17854 - Compostable Materials Handling Facility Permit Requirements."

P. 18, Line 24: Green Material Composting maximum volumes: mandatory cease and desist too onerous. Recommend change to:

“In addition, the EA **may** issue a cease and desist order pursuant to section 18304 directing, among other things, that the operator immediately cease accepting material

at the site until the operator has demonstrated to the EA that it has corrected the violation and eliminated the cause of the violation.”

P.20, Line 49-54: Chip and Grind Sampling Requirements. The proposed requirement for chip and grind operations to meet PCL of 0.5%, pathogen, and metals requirements if the material will be land applied essentially will be requiring virtually all chip and grind material to be composted and screened prior to being land applied. If this is the intent of CalRecycle, additional permits for new and expanded compost and in-vessel facilities will be necessary to accommodate the additional volume of organics that will be required to be properly processed by this rulemaking.

P. 23, Line 53: Sampling Requirements: We believe that there is ambiguity and inconsistencies throughout the proposed rulemaking on sampling versus test requirements, and the timing of testing prior to material leaving the site. Perhaps one way to manage this within the regulation is to make this section, § 17868.1, Sampling Requirements, the “core” section of the regulation that can be referenced for all sections calling for sampling throughout the code.

The ambiguity, which is replicated through cutting and pasting of language throughout, comes in where lines 57-58 state,

“Verification of maximum acceptable metal concentrations and pathogen reduction requirements shall occur prior to the point where compost is sold and removed from the site. . . Test results of Samples must be received by the operator prior to removing compost from the composting operation or facility where it was produced.”

This is problematic in that read in isolation, and interpreted literally and in isolation by an LEA to mean that all loads leaving the site must be tested and verified.

We recommend the section be modified as follows, and then referenced back to throughout the document:

Operators shall verify that compost meets the maximum acceptable metal concentration limits specified in section 17868.2, and pathogen reduction requirements specified in section 17868.3. Verification of maximum acceptable metal concentrations and pathogen reduction requirements shall be achieved by taking and analyzing at least one composite sample of compost, following the requirements of this section as follows:

- (1) An operator who composts agricultural material, green material, food material, vegetative food material, or mixed material shall take and analyze one composite sample for every 5,000 cubic-yards of compost produced. If the compostable material handling operation or facility produces less than 5,000 cubic-yards of compost in a 12 month period, the operator shall analyze at least one composite sample of compost produced every 12 month period.

- (2) (as is)
- (3) (as is)
- (4) The above verification sampling and testing shall occur prior to the point where compost is removed from the site, or beneficially used on-site. Sample Test results of verification samples must be received by the operator prior to removing compost from the composting operation or facility where it was produced.

(c) (alternative methods- as is)

(d) (new) [we suggest adding a reference to a yet to be developed guidance document (California Guide to Field and Laboratory Methods for Compost and Digestate Testing, or something similar) that can be co-developed with CalRecycle, academia, industry associations, and private industry and could provide recommended field and laboratory testing methods for compost, chip and grind, and digestate materials. This guidance document could be updated from time to time as science and industry innovation informs us of new and efficient ways to sample and test these materials for desired results, both in the field and in the laboratory.]

P. 24, Line 39: Maximum Metals Concentrations: For consistency and clarity as discussed above in "Sampling Requirements," we recommend changing the language to: "...Test results of verification samples collected at the minimum frequency described in § 17868.1 must be received by the operator prior to removing compost from the composting operation or facility where it was produced."

P. 26, Line 17: Operative Date: we recommend changing the operative date to **January 1, 2020**.

P. 26, Line 23-39: Physical Contamination Limits: We recommend, as above for clarity to refer back to § 17868.1 for verification sampling. Otherwise, this could be interpreted to mean operators are required to sample every load. If field methods of PCL sampling are developed, § 17868.1 as we propose, will contain reference to a new testing methods guidance document. If we can simply refer back to § 17868.1, it would clean up this section considerably.

P. 29, Line 13: Digestate definition. Digestate is a valuable soil amendment, not a waste. Recommend change the definition to: "Digestate means the solid and/or liquid residual *product* remaining after organic material has been processed in an in-vessel digester."

P. 30, Line 13: In Vessel Regulatory Tiers: Distribution Center In-vessel Digestion Operations is placed in Notification Tier with no volume limit. This seems like an opportunity for large "Distribution Center" food waste AD to be unregulated. Recommend Change: "Small Distribution Center In-Vessel Digestion Operations (less than 60 yd³ or 15 tpd)" Distribution center in-vessel digestion operations larger than this should be regulated under "Medium Volume" and "Large Volume" requirements.

P. 34, Lines 29- 37: Dairy Digester Exclusion: We see that in this round of proposed edits, that dairy digesters that take in imported agricultural material and vegetative food material are proposed to be excluded from this regulation. We question the merit of this exclusion.. As written, there is a loophole that would allow potentially large scale dairy and agricultural material digesters that could accept outside vegetative food material that would not be subject to these regulations. There are several already identified permitting tiers that these operations could fall under based on the proposed volume of feedstock. Why are these types of facilities proposed to be exempt without limit? Are there not equal public health and safety issues associated with these types of operations as with the other in-vessel operations that are proposed to be regulated?

P. 34, Lines 46-48: Rendering Activities Exclusion: We see that in-vessel digestion associated with rendering operations are also proposed to be excluded from these regulations. It is not clear why these operations would be categorically excluded from these regulations considering the potential for public health and safety issues arising from in-vessel digestion of rendering material. Imagine the potential odor concerns of a large-scale in-vessel digester operation co-located at a rendering operation? There are several already identified permitting tiers that these operations could fall under based on the proposed volume of feedstock.

P. 42, Line 30: Odor Minimization Plan: Recommend change “shall direct” to “may direct.”

P. 45, Line 12: Digestate Handling: Digestate is not solid waste, it is a waste derived soil product. Suggest: remove "solid waste" Suggest: "(A) transported to another solid waste facility or operation, or facility that has obtained a Compostable Materials Handling Facility Permit pursuant to section 17854 for disposal, composting, or additional processing; or..."

P. 45, Line 16: Digestate Handling: Digestate sampling frequency for metals, pathogens, and physical contamination should mirror the compost regulations.(b) should be revised to reflect this sampling/testing standard in section 17896.58 below.

P.47, Line 55: Sampling Requirements: Comment: As written this is impractical for in-vessel sites that do not have an attached composting site. Recommend change to: “The sampling of compost and digestate produced at an in-vessel digestion facility (pursuant to section 17896.57(a)(2)) shall occur at the point (1) where the digestate or compost is removed from the site, bagged for sale, given away for beneficial use and removed from the site or otherwise beneficially used, or (2) at the site of final curing, blending, processing or composting at a fully permitted solid waste facility (reference codes). Analytical results indicating compliance with sections 17896.59, 17896.60, and 17896.61 shall be received by the operator within 15 business days of digestate being removed from in-vessel digester. Sample results must be received by the operator prior to removing digestate or compost from the in-vessel digestion facility or final composting site where it was produced.”

P.48, Line 33: Maximum Metal Concentrations. Recommend, "Compost and Digestate"

P.48, Lines 43 and 44: Maximum Metal Concentrations. Recommend, "Compost and Digestate"

P. 49, Line 8: Pathogen Reduction: Comment: ***We are concerned that no efforts were made in the last round of edits to address any of the recommendations on pathogen reduction that are unique to Anaerobic Digestion versus composting.*** The in vessel digestion process will serve as its own pathogen reduction method. There should not be an additional requirement for pathogen kill as suggested, which appears to be "cut and pasted" from the composting pathogen reduction section above. "Provided that in-vessel digestion operations operate at thermophilic temperatures for 3 days, or mesophilic for 15 days, AND pass the pathogen lab test, no further pathogen reduction is required."

P.49, Lines 8-51: Pathogen Reduction: Recommend, "Compost and Digestate"

P. 49, Line 13-15: Pathogen Reduction: Recommend: "Sample results collected at the frequency prescribed in section 17896.58(b)(1) must be received by the operator prior to removing compost or digestate from either the in-vessel digestion facility where it was produced, or at the site of final curing, blending, processing or composting at a fully permitted solid waste facility (reference codes)."

P.49, throughout: Pathogen Reduction: Recommend, "Compost and Digestate"

P.49, Lines 17: Pathogen Reduction: Recommend: "Sample results collected at the frequency prescribed in section 17896.58(b)(1) must be received by the operator prior to removing product from the in-vessel digestion facility site, or the site of final curing, blending, processing or composting at a fully permitted solid waste facility (reference codes).

P.49, Line 22: Pathogen Reduction: Recommend: "(2) at in-vessel digestion facilities using an enclosed or within-vessel digestion process, active Substrate shall be maintained at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for a pathogen reduction period of 3 days, or 120 degrees Fahrenheit or higher for a pathogen reduction period of 15 days.

Delete (b) 2(A)

P.49, Line 28: Pathogen Reduction: Recommend delete and Replace with: "(3) Provided substrate temperatures in an in-vessel digestion facility are maintained according to minimum standards prescribed in section 17896.60(b)(2) and sample results prescribed in section 17896.60 (b) are within acceptable limits, no further pathogen reduction of digestate processed in this manner or compost produced from this digestate, shall be required."

P. 49, Line 32: Pathogen Reduction: Recommend Delete (b)(4), as this is redundant with the composting regulations.

P. 49, Line 53: Physical Contamination Limits, Operative Date: We applaud the proposed phase in, but feel that a more reasonable operative date would be **January 1, 2020** to coincide with organics land ban laws that will be in effect on or about then.

Suggested Revision:

§ 17868.3.1. Physical Contamination Limits. This section shall become operative January 1, 2020. Compost and digestate produced at an in-vessel digestion facility shall not contain more than 0.5% by dry weight of physical contaminants greater than 4 millimeters; no more than 20% by dry weight of this 0.5% shall be film plastic greater than 4 millimeters. Compost *and Digestate* that contains physical contaminants in excess of either one or both of these limits shall be designated for, additional processing, disposal, or other use as approved by local, state or federal agencies having appropriate jurisdiction. Verification of physical contamination limits shall occur at the point where compost *or digestate* is sold and removed from the site, bagged for sale, given away for beneficial use and removed from the site or otherwise beneficially used. Sample results, *collected at the minimum frequency prescribed in section 17868.3.1(c)*, must be received by the operator prior to removing compost *and digestate* from the in-vessel digestion facility *or associated composting operation facility* where it was produced.

(b) All in-vessel digestion facilities with an on-site *compost process or fully permitted solid waste facilities where final curing, blending, processing or composting occurs (reference codes)*, shall take one representative sample for every 5,000 cubic-yards of compost produced and send to a laboratory at which physical contaminants greater than 4 millimeters shall be collected and weighed, and the percentage of physical contaminants determined.

(c) Alternative methods of compliance to meet the requirements of this section may be approved by the EA if the EA determines that the alternative method will ensure the physical contaminant requirements of this section are met.

Note: Authority cited: Sections 40502, 43020 and 43021, Public Resources Code. Reference: Sections 43020 and 43021, Public Resources Code.

CONCLUSION

Once again, CR&R appreciates the opportunity to comment and provide these specific recommendations to the proposed rule changes. We look forward to working closely with CalRecycle, as an industry partner, to assist in finalizing regulations that work for everyone and help the state achieve its organics management goals.

Sincerely,



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