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June 10, 2013

Climate Action Reserve

Subject: Comments on draft revisions to the Organic Waste Composting Protocol V1.0

The US Composting Council (USCC), a 501(c)6 Trade and Professional Association, is the only national organization in the United States dedicated to the development, expansion and promotion of the composting industry. The USCC has over 800 member companies, including private and municipal compost producers, equipment manufacturers, product suppliers, academic institutions, public agencies, nonprofit groups and consulting/engineering firms.

The US Composting Council is a strong supporter of the Carbon Action Reserve and appreciates the opportunity to comment on the proposed amendments to the OWC Protocol. Based on the review of the draft changes to the Protocol by the Composting Council Research and Education Foundation's Greenhouse Gas Technical Advisory Committee the USCC has the following comments.

For convenience, we follow the outline of comments, headings and numbering scheme used in the Reserve's *Summary of Proposed Changes from OWC Project Protocol V1.0 to V1.1*.

Comments

1. Updated the Project Definition (Section 2.2). Updated the Best Management Practices (BMP) included in the project definition to make it clear that composting systems must reach and maintain temperatures at 55°C or higher for either 3 or 15 consecutive days. Also added flexibility to the Food Waste Handling BMP requirements. Further updated this section to implement various errata and clarifications.

The proposed changes further define the 'single facility-single project' concept from Version 1.0. However, this may be cumbersome or difficult to apply in practice to some composting operations that utilize more than one physical location (facility) within a service region.

Such operations may make relatively short-term decisions about the diversion of individual waste streams to one or another facility based on logistic or operational considerations. Therefore, eligible waste streams under the control of a single operation may not always be 'dedicated' to a specific facility. Nevertheless, individual sites are most often permitted separately and tracking of individual streams to facilities is normally practiced, so although they could be treated as 'complete' composting facilities from a quantification perspective, redundancy in various aspects of reporting and verification could add significant (and probably unnecessary) effort and cost compared to a project definition that allowed multiple facilities within a single project.

More problematic are composting operations that separate process activities among different facilities. For example, a single composting operation might utilize one facility for material receipt, grinding and mixing, a second facility for active phase composting, and a third for curing, screening and product sales, as well as share transportable equipment (loaders, grinders, screens, etc.) among facilities. In such cases, project activities (as included in the definition in Section 2.2 and listed in Section 2.2.1) would be spread across multiple facilities, all *‘involved in the aerobic processing of biodegradable organic solid waste components to produce a mature product for beneficial use’*. The proposed project definition appears to lack flexibility in such cases and may create disincentives for the development of ‘distributed’ composting operations that may otherwise provide significant advantages and efficiencies for community-scale food residuals management.

Rather than crystalizing the single facility-single project approach, it may be more sensible to consider more flexible alternatives to project definition, perhaps based on unified management and overlapping service regions rather than singular physical location.

With regards to the time, temperature and turning frequency BMPs, for turned windrows, the protocol should adapt the CFR 503 language for biosolids:

“For Turned Windrow Systems (non-forced aeration), the temperature of the compost is maintained at 55°C or higher for 15 days or longer. During the period when the compost is maintained at 55 degrees or higher, there shall be a minimum of five turnings of the windrow. “

The reasons that the 15 days should not be required to be consecutive are two-fold. First, the temperature of a windrow will drop immediately after turning, and may take a day or even two to recover. Second, more practically, some facilities will operate on a 5-day/week basis and 7 day/week monitoring is not feasible. Since the goal of this BMP is to assure that the facility is being operated adequately and anaerobic activity minimized, keeping the language similar to the 503s will avoid conflicts with state and federal regulations.

2. **Introduced new Project Activities guidance (Section 2.2.1).** Introduced the definition of “project activities,” making it explicit which activities are covered by the regulatory compliance requirements in Section 3.5.

This is a useful clarification, although it highlights the possible separation of numerous activities that ‘define’ a project at different facilities as discussed above.

3. **Updated the Regulatory Compliance requirements (Section 3.5).** Updated the requirements in line with the Reserve’s Environmental and Social Safeguards Policy (dated September 27, 2012).

[No comment]

4. **Expanded guidance for determining the fraction of eligible waste in different categories of mixed MSW waste streams (Section 5.1.1.1).** Updated guidance on how to determine the fraction of eligible waste in mixed MSW waste streams. Clearly sets out four

The inclusion of methods for quantifying eligible wastes in MRF residuals is an important improvement. However, 'Materials Recovery Facility' is not clearly defined, but should encompass a range of facilities that process MSW and derive organics-rich residual streams that are typically disposed in a landfill but might be composted given appropriate incentives (e.g., refuse-derived fuel and waste-to-energy fuel pre-processing facilities).

5. **Updated the national default factor for determining fraction of eligible waste in mixed MSW waste streams (Section 5.1.1.1).** Updated the national default factor which may be used to determine the weight of food waste in mixed MSW waste streams to reflect the most current data. Increases the rate to 20%, up from 18%.

[No comment, this is a better default number]

6. **Updated the Quantification guidance on how to develop site-specific emission factors for composting technology implemented (Section 5.2.2.2).** Restricts optional development and use of site-specific emission factor to projects using negatively-aerated static pile systems only.

The proposed option to use site-specific data for methane and nitrous oxide process emission factors (Sections 5.2.2.1 and 5.2.2.2) is a reasonable improvement. However it is unclear why this option is only included for negatively-aerated static pile systems.

We believe that this may be based on a misconception that reliable emissions data can only be practically obtained from negative air systems, presumably arising from the view that such systems, with physically separate biofilters, represent easily measured 'point sources' whereas positive air systems do not (e.g., see the description of aerated static pile system in the Protocol's Table A.1, which includes the statement: "*The advantage of negatively aerating a static pile is that the exhaust can be directed to a point source and put through a control system such as a biofilter*"). We feel this statement is inaccurate and possibly misleading (and should be struck) for the following reasons:

- (i) positive air systems may be contained, with exhaust just as readily directed to a single flow path (presumably what is meant by 'point source') as with negative air systems,
- (ii) contained positive air systems may be more effective than many uncovered negative air systems in completely collecting process gas from compost piles; accurate emissions measurements from uncovered negative air systems would likely require sampling from both biofilter *and* compost piles,
- (iii) the collection of process exhaust to a single flow path is not particularly relevant to measuring atmospheric emissions from ASP composting systems, since both constructed biofilters and compost cover systems (utilizing compost, other carbonaceous material, or synthetic fabrics) are emissions control systems that depend on diffuse flows within a relatively large surface area for proper function; biofilters, whether physically separate from or covering a compost pile, do not represent typical point sources (some negative air systems employ biofilters as large as one acre), and
- (iv) emissions data and sampling methods are currently available for positive air systems (e.g., Greenwaste Compost Air Emissions Data Review, San Joaquin Valley APCD, 2008).

We have appended some images that visually demonstrate uncaptured emissions from uncovered negative air systems as well as the areal extent of constructed biofilters at some composting facilities.

The requirement for 'official' data from an accredited testing body would seem to apply equally well to negative air or positive air systems, since process details and appropriate sampling methods would likely be considered. However the potential expense required for this level of certification is likely to severely constrain the utility of this site-specific alternative for many composting projects.

7. Updated the Time and Temperature BMP monitoring requirements (Section 6.3.1).
Updated guidance regarding positioning of temperature monitoring equipment.

[No comment, simple clarification]

8. Introduced new Time and Temperature BMP monitoring requirements for Regulated Systems (Section 6.3.1.1). Added flexibility to Time and Temperature BMP requirements for projects that can demonstrate the temperature monitoring arrangements in place have met project-specific regulatory approval requirements.

Although we welcome changes that increase flexibility for monitoring BMPs, the draft language is a bit wordy and potentially confusing with regard to the actual requirements and standards used to assess compliance for this alternative.

The regulatory process for food waste composting is quite stringent in almost all states, and typically revolves around a permitting and enforcement process that ensures compliance with applicable state and local codes and covering agency regulations. Adopting common language that is easily understood within this process would improve clarity. For example, terms such as 'engineering description' and 'specifically examined' are not well defined within this context and could lead to varying opinions about what is acceptable. And the somewhat arbitrary distinction between monitoring arrangements and composting process also leaves room for confusion, since monitoring and control systems are fundamental to many modern composting process systems (and not just a regulatory add-on).

Based on our perception of the intent of this change (aided by the brief but clear summary provided by the Reserve in the published 'Summary of Revisions' document) it appears that this alternative boils down to three straightforward standards:

1. Demonstrating that covering regulations, permit applications, issued permits or subsequent permit modifications specify time, temperature and turning requirements equivalent to those of the Protocol BMPs; and
2. Demonstrating that covering regulations, permit applications, issued permits or subsequent permit modifications specify a monitoring program for meeting the BMP requirements; and
3. Demonstrating that the monitoring program during the reporting period was in conformance with that specified in Standard 2 above, based on site-specific documentation and/or regulatory reports and notices.

Many state regulations for food waste composting currently specify time, temperature and turning requirements based on, or essentially equivalent to, the same EPA 503 standards referenced in the Protocol. Permit applications typically include operations plans that specify process and monitoring procedures for completing the active phase of composting, and issued

permits (and modifications) sometimes specify or clarify these requirements. Furthermore, EPA has issued equivalency determinations for specific aerobic process technologies that ensure sufficient aerobic processing and heat generation during active composting to meet Class A standards; specification of such equivalent process standards should also be acceptable within the context of Standard 1.

An important working assumption is that regulators are doing their job (this is the same assumption applied elsewhere in the Protocol for evaluating regulatory compliance). Logically, if regulations require BMPs equivalent to the Protocol's (Standard 1), then the permitting and enforcement process should ensure adequate process and monitoring standards to meet these requirements; if a permit application specifies information related to a monitoring program, then it is assumed that the regulatory body evaluates such information in the permitting process. Standards 2 and 3 provide important additional assurances based on project-specific information, but requiring separate confirmations from regulators outside of their normal regulatory process (essentially asking for confirmation that their doing their job) is not likely to be a straightforward or viable approach.

9. **Updated Gas Collection Fractions by State (Appendix A).** Updated Gas Collection Fractions by State, as set out in Table A.3, to reflect the most current data.

[No comment]

10. **Example project diagram (Appendix C).** Added example project diagram to assist project developers in compliance with new reporting requirements.

[No comment, good idea]

Other comments:

a. Project Start Date (Section 3.2)

Removing the 'Effective Date' language may cause confusion for currently listed projects that were eligible under Version 1.0. For example, a project with a start date of June 30, 2008, submitted to the Reserve on June 30 2011 (and listed), would not appear to be eligible under the revised language, since the project was submitted to the Reserve more than six months after the start date, and would therefore be stuck with Version 1.0. The Reserve may have policies in place to accommodate this situation, but it would be helpful to have explicit language included in the Revised Protocol itself.

b. Treatment of grocery store food residuals

Requirements for the special treatment of grocery store food residuals were not highlighted or recommended in the Reserve's *Summary of Performance Standard and Regulatory Research* for the development of the Composting Protocol, but apparently arose from a concern that the diversion of grocery store residuals from landfilling to composting ('grocery composting') represented a 'common practice' (i.e., with significant market penetration). While this may have been true locally for some cities in California, Oregon, Washington, and perhaps a few others where grocery composting had a head start, national penetration of this practice was no greater than 2.5% (the composting rate estimated by the EPA and cited in the Protocol for all 'MSW' food waste). Elsewhere, it is quite clear that there was very little activity outside of pilot projects and a handful of newly developed programs.

Our concern is that the Reserve used a national-level performance standard to develop the case for the additionality of food residuals composting, but then applied unique and highly site- and waste stream-specific requirements for grocery composting at the national level, based on noted exceptions found only within a few areas. It is not clear what standard of penetration the

Reserve employs to define common practice (2.5% seems very low), but we disagree with their generalization of grocery composting as a common practice nationally, and therefore with the need for special (and often cumbersome or impractical) quantification and reporting requirements for grocery store waste streams, regardless of location.

One of the purposes of a performance standard approach is to generalize statements about the additionality of project activities, based on a statistical population concept, to avoid the need for more complicated (and expensive) site-specific evaluations. The performance standard approach recognizes that there may be some local error resulting from inclusion of any project activities that were already in practice prior to the establishment of an emissions reduction incentive (offset program, carbon market, etc.) and might have continued without such incentives, but aims to protect against this error by evaluating and applying an appropriate overall performance standard (or regional standards) that must be met. The Protocol already has built-in protections against crediting prior practice (in the form of a start date requirement), therefore it is arguable that special treatment for US grocery store waste streams is not really necessary at all, or could be achieved more effectively by applying a regional discount, where necessary, than by universally requiring extensive project- and waste-stream specific documentation as in the current Protocol.

However, if the Reserve is convinced that grocery store waste streams are somehow materially different from other food residual streams with regard to common practice (we disagree), then it would be more sensible to apply standards based on regional impacts, rather than at the national level. Evaluations of the penetration of grocery composting at a state (or EPA region) level would clearly indicate that, for most states, it is still insignificant (< 2.5%). Application of different standards at the state level is already part of the Protocol (e.g., for determining the waste-to energy discount factor), so applying any additional requirements for grocery composting could also be done at the state level without much of a leap. Furthermore, a state or regional discount factor approach would be preferable to the current requirements for extensive project- and waste stream-specific documentation.

As it is, the Protocol's requirements for grocery composting are highly effort-intensive and often impractical (requiring detailed information on individual waste streams that is often very difficult or impossible to obtain), reduce the overall value of the emissions reduction incentive (due to the extra costs of reporting and verification), and may create disincentives to the establishment of grocery composting in areas where current activity is negligible (almost everywhere in the US). We urge the Reserve to reconsider their treatment of grocery store food residuals as an important improvement to the overall utility and impact of the Composting Protocol.

We welcome an ongoing dialogue with the CAR to continue to refine the OWC Protocol. Please, do not hesitate to contact us if you have any questions or wish further clarification.

Regards,



Lori Scozzafava
Executive Director

US Composting Council / Composting Council Research and Education Foundation