SUMMARY OF COMMENTS & RESPONSES
DRAFT ORGANIC WASTE COMPOSTING PROJECT PROTOCOL VERSION 1.1

5 sets of comments were received during the public comment period for the Climate Action Reserve (Reserve) draft Organic Waste Composting Project Protocol Version 1.1. Staff from the Reserve summarize and provide responses to these comments below.

The comment letters can be viewed in their entirety on Reserve's website at http://www.climateactionreserve.org/how/protocols/organic-waste-composting/dev/

COMMENTS RECEIVED BY:

1. Edgar & Associates, Inc. **(E&A)**
2. Environmental Credit Corp. **(ECC)**
3. CalRecycle. **(CalR)**
4. The Climate Trust **(TCT)**
5. U.S. Composting Council **(USCC)**

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2.1 Background

1. The OWC protocol directs that N_2O emissions from anaerobic pockets in compost piles must be accounted for, however the protocol excludes N_2O emissions from landfill, which is also an anaerobic process. Although published research is limited, N_2O emissions from landfill should also be accounted for. **(CalR)**

   RESPONSE:
   Given the limited published research in this area at present, the Reserve is not comfortable at this time with crediting for avoided N_2O emissions at landfills. It is conservative to exclude N_2O emissions from landfill from baseline calculations, as this policy will always result in a lower estimate of a project's emission reductions. The Reserve will continue to observe developments in this area and may revisit this issue in future.

2.2 Project Definition

2. The Time, Temperature and Turning Best Management Practices (BMPs) for forced aeration systems should be modified to require an insulating cover layer, in line with CalRecycle Composting Regulations and U.S. EPA 503 regulations for managing biosolids. **(CalR)**

   RESPONSE:
   Following further consultation with stakeholders, the Reserve believes that the current operational flexibility in the protocol is appropriate. The Reserve uses higher emission factors (see Table 5.2) for less efficient systems such as aerated static piles (ASPs) with no insulating cover layer. We believe the use of these higher emission factors is sufficient to account for the increased emissions of these systems. The Reserve will continue to monitor industry BMPs and revisit this position in the future, if necessary.

3. The single facility concept used to define projects may not be flexible enough to accommodate projects that use multiple separate 'distributed' facilities in their production process, thus potentially creating disincentives for such facilities. Such distributed composting operations may otherwise provide significant advantages and efficiencies for community-scale food residuals management. More flexible arrangements may focus on unified management and overlapping service regions, rather than singular physical location. **(USCC)**

   RESPONSE:
   The intent of limiting the project definition to a single facility is to avoid the situation where separate facilities with separate compost processes are able to be considered as a single project. However, in the case where multiple facilities are engaged in one single compost process (i.e. eligible organic waste must be processed at all facilities in order to complete the composting process), then it may be reasonable to be considered as a single project. The project definition has been modified to be inclusive of composting operations that use multiple facilities in a single compost process, while continuing to exclude the consideration of separate facilities with separate compost processes as one single project. In addition, SSRs 6 and 7 have been updated to include CO_2 emissions from off-site fossil fuel use for the transport of in-process material between sites and Section 8.4 and Table 8.2 have been updated to make it clear that verifiers need to

consider performing site visits at multiple project facilities, if appropriate.

4. With respect to Time and Temperature BMPs the protocol should not require 15 days of 'consecutive' requisite temperatures, as first, the temperatures are expected to drop immediately after turning and may take up to several days to recover and second, some facilities do not operate on weekends and so it will not be practical to monitor temperatures over a weekend. **(USCC)**

RESPONSE:
Following further research and consultation with stakeholders, this section has been updated to remove the requirement for consecutive days of requisite temperatures with respect to Turned Windrow Systems. The requirement for consecutive days of requisite temperatures with respect to ASP (and/or enclosed, in-vessel, or in-building composting), remains in place.

3.2 Project Start Date

5. Removing the 'Effective Date' language may cause confusion for currently listed projects that were eligible under Version 1.0. **(USCC)**

RESPONSE:
Additional guidance has been added to Section 3.2 to clarify this policy. It is the Reserve's policy that protocol requirements regarding eligible start dates are assessed against the protocol version under which a project was initially submitted.

3.4.1 Performance Standard

6. Although it is not appropriate to revise the performance standard during a minor protocol update, the Reserve should re-examine the grocery store documentation requirements in future revisions of the protocol. **(TCT)**

The national penetration of the diversion of grocery store organic waste is no greater than 2.5%. The Reserve appears to have adopted a national-level performance standard based on notable exceptions to national trends. The protocol should adopt regional discounts, where necessary, rather than universally requiring extensive project and waste stream specific documentation. **(USCC)**

RESPONSE:
Thank you for your comments in relation to grocery store waste documentation. While we are not revising the performance standard as part of this minor update process, we will continue to examine options for updating the performance standard and grocery store documentation requirements for inclusion in a future update. To clarify, the 2.5% figure referenced in the comment represents the portion of all food waste in the U.S. that is being diverted from landfill, rather than the portion of grocery store food waste that is being diverted from landfill. Reserve staff was advised by the stakeholder workgroup that this diversion activity was almost entirely focused on food waste from grocery stores. Thus, the penetration of diversion activities is less than 2.5% for non-grocery store sources, and greater than 2.5% for grocery stores. For example, a recent industry survey

determined that 55.6% of food waste generated by food retailers and wholesalers is already being diverted from landfill, with almost half of that going to composting facilities.[1] Furthermore, to use a discount on credits to account for common practice diversion would be ineffective unless it were possible to have all food waste in the country participating in the offsets program. If this is not the case, the discount approach would always result in crediting non-additional activities. The Reserve will continue to research alternative data sources with which to explore an update to the performance standard and documentation requirements.

5.1.1.1 Determining Fraction of Eligible Waste in Mixed MSW Waste Streams

7. The inclusion of methods for quantifying eligible wastes in MRF residuals is an important improvement; however MRF should be clearly and flexibly defined to include a range of facilities that process MSW. **(USCC)**

RESPONSE:
The glossary of terms has been updated to clarify the definition of a Materials Recovery Facility. In relation to expanding MRF sampling methodologies, please see the response to comment 9.

8. The references to 'specific facility' or 'single MRF' are too restrictive – this option should be expanded to food waste rich material from any targeted collection routes, regardless of whether it's hauled directly to a compost facility, transferred to transfer trucks at a MRF or at a single transfer station. The requirement for 4 samples of 200 pounds in the option 4 sampling methodology is too much, 100 pounds should suffice. **(E&A)**

RESPONSE:
In relation to the 'specific facility' definition, this refers to the original source of the waste, rather than any intermediary that may handle waste before it reaches the compost operation. In relation to methodologies for determining the fraction of eligible waste in mixed MSW waste streams, the Reserve has elected to keep the new option as it is written to control for the risk of variability between non-source-separated loads from different sources. The Reserve will continue to explore means to expand option 4. Upon further evaluation, the 200 pound sample size requirement has been reduced to 150 pounds.

5.2.2.1 Site-Specific Emission Factors for Composting Technology

9. Project Developers should be allowed to develop site-specific emission factors for Positive Aeration Systems covered with a biofilter, as well as negative aeration systems. Studies indicate such systems can perform very effectively. **(CalR)**

RESPONSE:
Following further research and consultation with stakeholders, the Reserve has decided

[1] BSR. "Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Wholesalers." April 2013. Food Waste Reduction Alliance. <http://www.foodwastealliance.org/wp-content/uploads/2013/06/FWRA_BSR_Tier2_FINAL.pdf>.

to remove the option for developing site-specific emission factors for the composting process. At present, no sufficiently standardized methodology exists that can be adapted/adopted for use in this protocol. The Reserve will continue to research appropriate methodologies for the quantification of fugitive emissions from composting systems and may revisit this issue in a future update.

10. It is unclear why this option was not made available for positively aerated systems, though it appears it is based on misconceptions about the benefits of a negatively aerated system over alternative systems. The requirement for 'official' data from an accredited testing body is likely to be cost prohibitive. **(USCC)**

RESPONSE:
Please see the response to comment 9.

Table 5.2 Methane and Nitrous Oxide Emission Factors

11. The N_2O emission factors listed in Table 5.2 are significantly higher than the values listed in other sources. These should be changed to reflect those used by the Californian Air Resource Board's Composting emission Reduction Factor (CERF – 2011) report[2]. **(CalR)**

RESPONSE:
The Reserve understands that the emission factors used in the CERF report represent a point within a range of observable factors. The Reserve believes the current emission factors are appropriate and conservative, as they represent a range of values utilized from a number of sources and are within IPCC bounds. We will continue to research the possibility of updating these factors in future protocol versions.

6.3.1 Time and Temperature BMP Monitoring Requirements

12. We welcome the more flexible option to meet BMP requirements, however believe the wording is potentially confusing. **(USCC)**

The Reserve should align the protocol's BMP language with federal and state regulations and otherwise avoid overly prescriptive language, to avoid conflicts between protocol requirements and existing regulations. **(ECC)**

RESPONSE:
The language for the new temperature monitoring option has been updated to reduce confusion. However, the Reserve does not believe that demonstrating a U.S. EPA equivalency determination for a specific process of technology is sufficiently robust to meet the protocol's BMP requirements, as such determinations do not take into account installation or subsequent operation of the process/technology. It is foreseeable that a project could incorrectly implement or manage a process/technology approved by the EPA, such that aerobic conditions are not sufficiently met or maintained. Project developers shall demonstrate compliance with permitted monitoring arrangements by presenting data to the verifier to confirm that the permitted monitoring plan was followed during the reporting period.

[2] A copy of the report can be found here: http://www.arb.ca.gov/cc/protocols/localgov/pubs/compost_method.pdf