SUMMARY OF COMMENTS & RESPONSES
DRAFT LANDFILL PROJECT PROTOCOL VERSION 5.0

One set of comments was received from First Environment during the public comment period for the Climate Action Reserve (Reserve) draft Landfill Project Protocol Version 5.0. Staff from the Reserve provides responses to the comments below. The public comment period for the draft protocol was February 12, 2019 – March12, 2019. The Reserve would like to thank First Environment for the thorough and thoughtful feedback.

The comment letter can be viewed on the Reserve's website at http://www.climateactionreserve.org/how/protocols/us-landfill/revisions/

COMMENTS RECEIVED BY:

1. First Environment

3.2 Project Start Date

1. **The draft Landfill Project Protocol states:** The project start date shall be defined by the project developer, but must be no more than 45 days after landfill gas is first destroyed in a project destruction device, regardless of whether sufficient monitoring data are available to report reductions.

   Comment: First Environment recommends that the project developer be allowed to select a date within 90 days of the first destruction of LFG to provide maximum flexibility.

   RESPONSE: Reserve staff believe this change will provide additional flexibility, without detracting from the additionality of projects, so this change has been made.

3.4 Additionality

1. **Eligible Technologies.** The draft protocol identifies in Table 3.1 that eligible destruction technologies include: active flares (open or enclosed), on-site electricity generating systems, and direct use pipelines (medium Btu).

   Comment: The list of eligible technologies in Table 3.1 excludes several qualifying destruction device technologies that are identified in Section 2.2 “Project Definition”. Specifically, boilers, leachate evaporators, kilns, sludge dryers, burners, furnaces, and fuel cells. The list of eligible technologies identified in Table 3.1 should be consistent with technologies identified as qualifying destruction devices in Section 2.2.

   RESPONSE: The guidance in this section will be simplified by referring to passive flares as the only technology type excluded. Changes have been made to the Performance Standard Test (section 3.4.1.) to remove the restriction against high-Btu end-uses and thus Table 3.1 has also been removed.

2. **Legal Requirement Test.** The draft protocol identifies several EPA regulations for MSW landfills that have a bearing on the eligibility of methane collection and destruction projects as voluntary GHG reduction projects. These regulations include:

   - New Source Performance Standards (NSPS) for MSW Landfills, codified in 40 CFR 60 subpart WWW – Targets landfills that commenced construction or made modifications after May 1991
   - Emission Guidelines (EG) for MSW Landfills, codified in 40 CFR 60 subpart Cc. – Targets existing landfills that commenced construction before May 30, 1991, but accepted waste after November 8, 1987
   - The National Emission Standards for Hazardous Air Pollutants (NESHAP), codified in 40 CFR 63 subpart AAAA – Regulates new and existing landfills

   Comment: New Source Performance Standards (NSPS) for MSW Landfills, codified in 40 CFR 60 subpart XXX should be included in this list. Subpart XXX is applicable to landfills that commenced construction, reconstruction, or modification after July 17, 2014 and lowers the NMOC emissions rate threshold to 34Mg/yr.

   RESPONSE: Reserve staff believe this change is appropriate, as it will provide more comprehensive overview of some critical laws. Additional guidance has also been included

to make it clear that the regulations listed in the protocol should not be considered exhaustive, and that the onus remains on project developers and verifiers to ensure all relevant laws are taken into consideration with respect to the Legal Requirement Test.

6.1.1 Indirect Monitoring Alternative

1. **The draft Landfill Project Protocol states**: As an alternative to the direct measurement of LFG, projects may instead choose to demonstrate volumes of CH4 destroyed using output data for their destruction device. Where the output of destruction devices (such as gensets) is measured via the use of a commercial transfer meter (i.e., a meter whose output is used as the basis for the quantification under an energy delivery contract), which is subject to regular, professional maintenance, the project may use such data as the basis for determining the volume of CH4 destroyed. The meter output shall be subjected to an appropriate conversion methodology to calculate the volume of CH4 destroyed during the reporting period. One example of a methodology that may be suitable is brake-specific fuel consumption calculations. Projects may also be able to use results of performance testing mandated under 40 CFR Part 60 Subpart IIII, Subpart JJJJ, and Subpart KKKK, to develop an appropriate conversion methodology. If using the indirect monitoring alternative, the commercial meter must be maintained by appropriately-trained professionals, in accordance with manufacturer requirements. In scenarios where projects are able to control the maintenance of such meters, the QA/QC requirements in Section 6.2 apply. In scenarios where projects are not able to control the maintenance of such meters, reasonable efforts must be made to obtain documentation demonstrating manufacturer maintenance requirements have been met during the reporting period.

   The monitoring methodology to be employed must be clearly set out in the project monitoring report, it must be applied consistently throughout the reporting period, and it must be demonstrated to the satisfaction of the projects verifier that the use of such data and methodology is reasonable in the circumstances, and results in a conservative estimation of the volume of CH4 destroyed.

   Comment: First Environment in the strongest terms recommends that any conversion methodology used to calculate the volume of CH4 destroyed during the reporting period be subject to Climate Action Reserve review and approval prior to being implemented by the Project. A Reserve review and approval process would ensure the methodology proposed meets the Reserve's expectations for acceptable alternatives to direct measurement. Programmatic review by the Reserve is also necessary to ensure consistency across verification bodies in the evaluation of alternative approaches to LFG measurement.

   RESPONSE: Reserve staff believe it is appropriate to update guidance in the protocol to make it clear that Reserve approval of an alternative method is required prior to implementation of the alternative monitoring method.

6.2 Instrument QA/QC

1. The draft landfill project protocol states: All gas flow meters and continuous methane analyzers must be: Cleaned and inspected on a regular basis, as specified in the project's Monitoring Plan, with activities and results documented by site personnel. Cleaning and inspection procedures and frequency must, at a minimum, follow the manufacturer's recommendations.

Comment: First Environment recommends that the language “cleaned and inspected” be replaced with “maintained” in this paragraph. Few manufacturers identify an explicit procedure for cleaning or inspecting an instrument; rather references to field procedures tend to be vague and refer to proper maintenance or maintenance in accordance with site requirements; nor do most publish a specific time interval on which to conduct routine maintenance. Recognizing that an instrument manufacturer may not articulate their operational guidance in the terms in the draft protocol, the Reserve should consider avoiding specific language when defining QA/QC requirements in this section to increase flexibility for project developers during the verification process.

RESPONSE: Reserve staff believe the current language is appropriate, as it's flexible enough to accommodate specific manufacturer requirements or lack thereof.

7.3. Reporting Period and Verification Cycle

1. **The draft Landfill Project Protocol states**: For any reporting period that ends prior to the end of the verification period (i.e., year 1 of a 2-year verification period), an interim monitoring report must be submitted to the Reserve no later than 90 days following the end of the relevant reporting period. The interim monitoring report shall contain a summary of emission reductions, description of QA/QC activities, and description of any potential nonconformances, data errors, metering issues, or material changes to the project.

   Comment: The protocol should clarify what, if any, elements of the interim monitoring report are subject to verification at the completion of the second reporting period.

   RESPONSE: This guidance has been updated to clarify that all mandatory parts of interim monitoring reports (as set out in the protocol) must be verified in the subsequent verification.

2. **The draft Landfill Project Protocol states**: A reporting period may be verified without a new site visit if both of the following are true: 1. A new site visit occurred in conjunction with the verification of the previous reporting period; and, 2. The current verification is being conducted by the same verification body that conducted the site visit for the previous verification.

   Comment: It should also be required that no material changes to the project’s data collection and monitoring system have occurred during the reporting period since the previous site visit for a project to be eligible to utilize this reporting option. Similar to the Livestock protocol, the project developer could be required to provide the verification body with an attestation to this effect.

   A diagram in this section detailing the different reporting cycles and at what point in each a project would generate offsets would be instructive in this section of the protocol.

   RESPONSE: This additional requirement is reasonable, is in line with requirements in other Reserve methane protocols, and has been added to the protocol. The Reserve has determined not to add a diagram to the protocol at this time, but will consider such diagrams in the future.