Landfill Project Protocol V5.0
Overview Webinar
May 23rd 2019
Reserve Staff

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Agenda

1. Background
2. Protocol Updates
3. Questions
BACKGROUND
Climate Action Reserve

- Private, nonprofit carbon offset registry, founded in 2001:
  - Develop carbon offset policies and protocols
  - Manage a registry of voluntary offset projects
  - Oversee independent verification program
  - Accredited Offset Project Registry for California Air Resources Board
- 18 different project protocols for U.S. and Mexico
- >126M offset credits issued, both voluntary and compliance (CA)
## Landfill Protocol Development History

<table>
<thead>
<tr>
<th>Version</th>
<th>Adoption Date</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>V1.0</td>
<td>Nov 29, 2007</td>
<td>Protocol adopted</td>
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<tr>
<td>V2.0</td>
<td>Nov 18, 2008</td>
<td>Improved accuracy and conservativeness in ER calculations and better guidance for MRV</td>
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<td>V3.0</td>
<td>Dec 2, 2009</td>
<td>Eligibility for closed landfills with flares, updated definitions and QA/QC guidance</td>
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<tr>
<td>V4.0</td>
<td>June 29, 2011</td>
<td>Introduced size threshold for LFG-to-energy projects in performance standard test</td>
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<tr>
<td>V5.0</td>
<td>April 24, 2019</td>
<td>Removed size threshold for LFG-to-energy projects, introduced limits on credit stacking, increased flexibility for monitoring and verification</td>
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PROTOCOL UPDATES
Section 2.2 Project Definition

• Expansion of existing landfill gas capture & destruction system into new cell(s)
  – Can be considered an expansion of existing project
  OR
  – Submitted as a new project with new crediting period

• Impact on projects: Can continue as usual, ignore landfill expansion, or submit as expansion to existing offset project, or submit expansion as new offset project
Section 2.2 Project Definition

• Project development and verification considerations:
  – Cells from different projects must be engineered in a way that LFG cannot migrate between cells
  – Projects can share common destruction devices
    • Provided flow of methane from each project is metered separately

• Regulatory compliance implications:
  – Starting presumption = Any regulatory non-compliance applies equally to all projects at landfill
Section 3.2 Project Start Date

- Project start date must be no more than 90 days after landfill gas is first destroyed
- Projects must be submitted to the Reserve no more than 12 months after the project start date
• Flexibility for 2\textsuperscript{nd} crediting period

• Flexibility for projects that did not maintain continuous reporting
  
  – Submit one Zero-Credit Reporting Period form and one Monitoring Report to cover the entire period of lapsed reporting
QUESTIONS
Section 3.4.2 Limits on Credit Stacking

• Projects that receive mitigation credits for upgrading landfill gas into high-Btu fuels will not be eligible to receive offset credits for the same period of time under this protocol

• Examples of high-Btu credits:
  – Renewable Fuel Standard (RFS)
  – California Low Carbon Fuel Standard (LCFS)
Section 3.4.2 Limits on Credit Stacking

• Project development and verification considerations:
  – Any type of mitigation credit received for project activities must be disclosed by the project developer to the verification body and the Reserve on an ongoing basis
  – Projects may be listed in the Reserve while receiving high-Btu credits
  – Specific reporting requirements for such projects has not yet been determined – likely minimal
Section 3.4.3 Legal Requirement
Test

• Added guidance regarding requirements for landfills that commenced construction, reconstruction, or modification after July 17, 2014 (Subpart XXX in 40 CFR 60 in NSPS)

• BMP: Define in monitoring plan and verification report which subpart the landfill is subject to (WWW or XXX)

• Federal regulations listed in the protocol are not exhaustive
Section 3.4.3 Legal Requirement

Test

• Removed local NMOC threshold (Section 3.4.2.3 in V4.0)
  – Projects subject to closed flare mandate at local level are no longer eligible
QUESTIONS
Section 6.1.1 Indirect Monitoring Alternative

- Instead of using flow meters, projects may demonstrate volumes of CH$_4$ using output data for their destruction device

- Conditions:
  - Must measure output using commercial transfer meter
  - Must propose appropriate method to convert from energy output to volume of CH$_4$ destroyed and must outline method clearly in monitoring plan
    - Method must be approved by Reserve prior to implementation
  - Must apply method consistently throughout the reporting period
Section 6.1.1 Indirect Monitoring

Alternative

• Protocol QA/QC should be met when project developer can control maintenance of the meters

• If project developer cannot control maintenance, ideally provide documentation to demonstrate manufacturer QA/QC requirements met

• Must demonstrate to verifier’s satisfaction that use of such data and method is reasonable and conservative
Section 6.2 Instrument QA/QC

- Flow meters and continuous methane analyzers must be calibrated by the manufacturer or a certified third-party calibration service per manufacturer’s guidance or every 5 years when calibration frequency is not specified by the manufacturer.
Section 7.3 Reporting Period and Verification Cycle

- Flexibility for verifications

- Reporting periods
  - Initial reporting period may be up to 24 months
  - All other reporting periods of 12 months or sub-annual

- Verification periods
  - Initial verification period limited to one reporting period
  - Subsequent verifications may cover up to two reporting periods
    - Interim monitoring report required for deferred verification year
Section 7.3 Reporting Period and Verification Cycle

• Site visit schedule
  – Site visit at initial verification
  – For subsequent verifications, at least once every two reporting periods

• Reporting periods may be verified without a new site visit if:
  – A site visit occurred in the previous reporting period; and
  – The current verification is conducted by the same verification body as the previous verification; and
  – No significant changes in data management systems, equipment, or personnel since previous site visit
QUESTIONS
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