

U.S. Livestock Project Protocol Version 4.0 Public Comment Webinar



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November 27, 2012

We will begin shortly

For audio, please dial: (480) 297-0023

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Agenda

- Presentation of changes from V3.0 to V4.0
- Public comment and discussion of proposed changes
- Next steps



Why Version 4.0?

- Reduce subjectivity around anaerobic baseline requirement
- Increase clarity of guidance based on implementation experience
- Respond to user feedback
- Incorporate errata and clarifications
- Incorporate policy memos issued since 2010
- Keep in line with other protocols



Project Start Date (Section 3.2)

- Previously defined in relation to methane production
 - Now defined relative to loading of eligible manure (for enclosed vessel digesters) or installation of lagoon cover (for covered lagoons that already contain manure)
 - In-line with Organic Waste Digestion Project Protocol

Anaerobic Baseline Requirement (Section 3.4)



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- Renamed “Uncontrolled Anaerobic Baseline Requirement”
- Split into three sections:
 - Existing livestock facilities
 - Must meet requirement for the five years prior to project start date, or entire facility history if farm is between 2-5 years old
 - New livestock facilities (“greenfields”)
 - Facilities that have been in operation for less than 2 years
 - Standardized baseline assumption
 - Centralized digesters
 - Each farm must meet one of the above requirements as of the project start date



Greenfield Baseline (Appendix B)

Table B.10. Baseline Assumptions for Greenfield Projects

Baseline Assumption	Dairy Cattle Operations		Swine Operations
	>200 Mature Dairy Cows	<200 Mature Dairy Cows	
Anaerobic manure storage system	Flush system into an anaerobic lagoon with >30 day retention time	Flush system into an anaerobic lagoon with >30 day retention time	Flush system into an anaerobic lagoon with >30 day retention time
Non-anaerobic manure storage system(s)	Solids storage	Solids Storage	Solids Storage
MS_L	90% lagoon 10% solids storage	50% lagoon 50% solids storage	95% lagoon 5% solids storage
Lagoon cleaning schedule	Annually, in September	Annually, in September	Annually, in September

Simplified assumptions based on Inventory of US GHG Emissions and Sinks 1990-2010.



Legal Requirement Test (Section 3.5.2)

- First crediting period
 - Must meet legal requirement test once, as of the project start date
- Second crediting period
 - Must meet legal requirement test on an on-going basis
 - CRTs will not be issued as of the date that the system is legally required to be operational



Quantification (Section 5)

- Rearranged the descriptive text for clarity. Discussion of model parameters is moved to beginning of section. Increased discussion of manure fraction estimation and modeling of baseline manure management systems.
- Introduced default factors for solids separation, differentiated by technology. Projects may still provide evidence for an alternative value.
- Added guidance on modeling of volatile solids retention
- Box 5.2 clarifies determination of number of reporting days



Solids Separation (Appendix B)

Table B.9. Volatile Solids Removed Through Solids Separation^[1]

Type of solids separation	Volatile solids removed (fraction)
Gravity	0.45
Mechanical:	
Stationary screen	0.17
Vibrating screen	0.15
Screw press	0.25
Centrifuge	0.50
Roller drum	0.25
Belt press/screen	0.50

^[1] U.S.EPA National Pollutant Discharge Elimination System (NPDES) Development Document, Chapter 5, "Industry Subcategorization for Effluent Limitations Guidelines and Standards". Adapted from Moser et al. (1999).

Project Methane Emissions from BCS Effluent (Section 5)



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- Previous Equation 5.8 has been split into two equations
 - Equation 5.8: Modeled Project Methane Emissions from **Anaerobic** Treatment of BCS Effluent
 - Employs van't Hoff-Arrhenius factor as in Equation 5.3
 - Based on monthly average temperatures, resulting in more correlation between modeled baseline and project emissions throughout the year
 - Equation 5.9: Modeled Project Methane Emissions from **Non-Anaerobic** Treatment of BCS Effluent
 - Same as previous Equation 5.8
 - Based on default MCF using annual average temperature



Determination of Site-Specific B_0 (Section 6.1)

- Stakeholder feedback that current default B_0 values may be too conservative
 - Optional site specific testing for any manure stream
 - Sample prior to mixing with other waste
 - Sample between August-October
 - Analyze using BMP assay at experienced lab
 - Multiple test runs performed
 - Valid for 1 year



Reporting Parameters (Section 7)

- Added new reporting documentation requirements:
 - Project diagram (not public)
 - Reserve Livestock Calculation Tool (if used) (not public)



Appendix B

- Updated VS and TAM values
- Expanded Table B.4

Digester Type	Cover Type	Biogas Collection Efficiency (BCE) as a Decimal
Covered Anaerobic Lagoon	Bank-to-Bank, impermeable	0.95
	Partial area (modular), impermeable	$(0.95) \times (\% \text{ area covered})$
Complete mix, plug flow, or fixed film digester	Enclosed vessel	0.98
Two stages of differing types	With flow metered for each stage	$\frac{(BCE_1) \times (\text{Gas flow}_1) + (BCE_2) \times (\text{Gas flow}_2)}{\text{Total biogas flow}}$
	No separate flow metering	$(BCE_1) \times 0.7 + (BCE_2) \times 0.3$

Adapted from: U.S. EPA Climate Leaders, Offset Project Methodology for Managing Manure and Biogas Recovery Systems, 2008. Table If (original table has been expanded upon).



Policy Memos

Use of eGRID Electricity Emission Factors (May 3, 2011)

- Removed eGRID emission factor table from appendices
- Use version of eGRID from EPA website that most closely corresponds to time period electricity was consumed

Project Diagram Required at Verification (February 13, 2012)

- New requirements for a project diagram
- Part of Monitoring Plan and includes all parties involved



Policy Memos

Registration Under Prior Protocol Versions (June 29, 2012)

- Projects may be submitted under V3.0 for 90 days following adoption of V4.0 unless those projects will be converting all of their CRTs into EAOCs under the CA compliance system

Environmental and Social Safeguards Policy (September 27, 2012)

- New language under Regulatory Compliance section
- Only those parties involved with project implementation are responsible for conformance



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Public comments and discussion



Next Steps

- Submit written comments via Livestock Revision webpage - deadline is **5 PM PDT on Thursday, December 13**
- Submitted comments will be made public
- Response to public comments and revised protocols to be posted in late December
- Protocol scheduled to be considered for adoption by Board on January 16, 2013



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Questions and Feedback

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