Climate Action Reserve Comments to ARB on Updated Compliance Offset Protocols
September 5, 2014

The Climate Action Reserve respectfully submits the following comments and suggestions regarding the July 2014 proposed updates to the *Livestock Project Compliance Offset Protocol* and *Ozone Depleting Substances Project Compliance Offset Protocol*, as well as the proposed quantification methodology changes to the *U.S. Forest Compliance Offset Protocol*. We appreciate the Air Resources Board's efforts to improve the clarity, usability, and effectiveness of these protocols and we offer the following comments based on our own experience regarding their interpretation and application, including experience with similar protocols administered under the Climate Action Reserve's voluntary offset program.

Contents

Livestock Project Compliance Offset Protocol

Chapter 3.4.1 (b)

- The language here is focused only on legal requirements for "destruction of methane." However, there is the additional, and crucial, consideration of whether there is a legally-binding mandate that would result in methane avoidance, rendering the baseline scenario invalid. For example, if a greenfield project were located in an area where new lagoons are prohibited, the methane avoidance would be legally mandated, but not the destruction. There may be other regulations related to manure handling which would result in a baseline scenario that does not allow for an uncontrolled, anaerobic lagoon. Recommend revising to specify "destruction or avoidance of methane in the baseline scenario."

Chapter 3.4.2 (c)

- This says that the baseline scenario for greenfields will be "determined by ARB." We suggest adding additional guidance on how this determination will be made so that project developers may assess the basic eligibility of a potential project before committing the resources required for a formal determination.

Chapter 3.5 (b)

- Thank you for clarifying the amount of time allowed for an "initial start-up period." Additional clarity is needed around defining the action which triggers the beginning of the "initial start-up period" and, thus, the commencement date. For example, the CAR LSPP v4.0 defines a commencement date ("start date") relative to the loading of manure in the digester.

Chapter 4 (a)

- (1) Land application is an excluded source, yet since it is combined within SSR 7, it is included within the GHG Assessment Boundary. Suggest splitting SSR 7 and placing Land Application outside of the boundary.
- Figure 4.1: SSR 6 (effluent pond) is indicated as relevant to both the project and baseline scenarios. This SSR is relevant only to the project scenario, as there is no need for treatment of digester effluent in the baseline, since there is no digester. This change is needed in Figure 4.1 and Table 4.1.

Chapter 5.1

- Equation 5.2 – Recommend removing all instances of the text "by livestock category." This distinction is not relevant since Equation 5.3 sums across all livestock categories.

Chapter 5.2

- The protocol states that site-specific testing for destruction efficiency requires prior written approval from the Executive Officer. It would be helpful to add more guidance to the protocol regarding what sort of testing would be deemed acceptable for this purpose.
- (j) and (k) These two items provide conflicting guidance on determining the number of days of the venting event. Suggest removing one for clarity, keeping only the desired guidance.
- Equation 5.8 – It is common at a number of facilities to separate the digester effluent into multiple treatment systems, typically a liquid effluent pond and a solid storage or bedding system. This equation does not make it clear how to determine the MCF for a project with multiple effluent treatment systems. The common practice is to use an MCF which is an average of the defaults for the different systems, weighted by the percentage of the VS treated by each system. It is recommended that this approach be adopted for the compliance protocol.

Chapter 5.4

- (e) Recommend removal of this item entirely. As written, this assumes that the project will consume the electricity it produces, which is typically not the case. If the project consumes grid electricity, those emissions must be quantified, regardless of the production of renewable energy on-site. By reducing the PE related to grid electricity based on production of onsite RE this policy is accounting for SSR 13, which is specifically excluded.

Chapter 6.2

- (a) It is not clear whether a meter which is used temporarily during the reporting period must be field checked before being removed from service. Please clarify how this section applies to meters which are used temporarily or replaced during the reporting period.

Appendix B

- Based on Chapter 5.3(e) and Chapter 6.1(e), the protocol requires that the project apply a BDE value of 0% when a destruction device is inoperable. If flow or methane data are missing during

this period, it is necessary to apply data substitution in order to correctly apply the BDE. Appendix B currently erroneously disallows data substitution when a device is inoperable. This guidance was originally developed for landfill gas projects and is not directly applicable to livestock projects. Recommend removing text in Appendix B related to operational status.

Ozone Depleting Substances Project Compliance Offset Protocol

Chapter 2.2

- (j)While the requirement that technicians have the proper EPA certification is important, the Reserve recommends that this requirement be clarified and applicable only from the project point of origin forward. Without such clarity, the Reserve is concerned this requirement could be interpreted as applicable earlier in the chain of ODS custody prior to the point of origin. For materials that are collected in small quantities from many sources prior to aggregation at the point of origin, this would be unduly burdensome and provide minimal benefit.

Figure 4.1 and Table 4.1

- Projects which destroy mixed ODS, as defined by the protocol, must carry out mixing procedures. This should be viewed as a distinct SSR, outside of the GHG Assessment Boundary. It often occurs at a separate facility.

Chapter 5.1

- (d) and Chapter 5.2(d). If project developers must quantify and exclude moisture content, the Reserve strongly recommends that the method by which to do so be outlined in this section. There is requirement in Appendix D(d)(3) that moisture content must be less than 75% of the saturation point, but it is not clear whether (and how) the project developer actually calculates a value of moisture to subtract from Qrefr,i. The Reserve's guidance on this issue under its ODS Protocol is:

  "While water is also considered ineligible material, the moisture content requirement in the protocol (i.e. that the moisture content must be less than 75% of the saturation point for the ODS) already ensures that the weight of any moisture present will not have a material impact on the quantification of emission reductions. Thus the weight does not need to be adjusted to reflect the weight of moisture present in the sample." [1]

- Equations 5.3 and 5.4: Strongly encourage that a deduction for vapor composition risk be included in these equations. Because the protocol only requires that a liquid sample be taken for composition analysis, for containers of mixed ODS, there is a real risk that the composition in the vapor could be different than the composition in the liquid due to differences in the thermodynamic properties of the chemicals, potentially resulting in an offset material misstatement. The Climate Action Reserve ODS Project Protocol v2.0 Section 5.3 describes the nature of the risk in more depth and presents two tables and an equation for determining if a discount for the vapor composition risk must be applied and, if so, the value of the discount. The discount is applied to the calculation of baseline emissions (Equation 5.3 and/or Equation 5.4, depending on the nature of the project).

[1] Errata and Clarifications to U.S. ODS Project Protocol Version 2.0 (April 11, 2013)

Chapter 5.3 (c)

- Reference to equation 5.6 is missing from this section. If material is disqualified and removed from the calculation of baseline emissions, it should also be removed from the calculation of project emissions due to use of substitute refrigerants.

Chapter 6.2

- (d) "over 500 pound of ODS" ("of" is missing)

Table B.6

- The eGRID emission factors appear to be updated from 2007 to the most recent 2010 emission factors, however references in this section do not reflect that update.

Appendix D

- (b) These additional requirements seem reasonable. However, they are quite extensive, and we strongly recommend that ARB staff discuss these procedures in detail with both OPOs and ODS destruction facilities to ensure that it will be possible to implement everything that is required.
- (f)(1) Clarify that required sampling *for this section only* may be conducted at destruction facility or prior to delivery.

U.S. Forest Project Compliance Offset Protocol

Comments Related to the Current Proposed Quantification Methodology Updates

Table A2. Height Measurements

- The wording is unclear. There is no obvious value to what is added through the edit. It is obvious that height measurements must be used for the biomass models and that the height values are from the inventory, either directly, indirectly through regression estimation, and/or grown from direct or indirect height estimates. It is not clear how the definition of 'high degree of accuracy' will be applied. The statement that the measurements are subject to passing sequential sampling and verification should be revised since sequential sampling is part of verification. Indeed, verification through sequential sampling techniques will test the accuracy of height estimates.

Table A2. Deductions for Missing Biomass

- Recommend standardizing the methodology for calculating missing biomass to increase consistency across projects.

Table A3(b). Summarizing Total Carbon by Carbon Pool and Stratum.

- It is not clear what the intent is for a table that displays carbon estimates and summary statistics by stratum. Recommend removing what appears to be a requirement to report inventory confidence by stratum or adding language to explain what the intent of the table is.

B.2 Using models to forecast carbon stocks

- The language seems to indicate the POs need to project anticipated project carbon stocks and create a chart with the projection. Predicting the trajectory of carbon stocks is fraught with uncertainty and is irrelevant to the quantification of actual GHG reductions/removals and the issuance of offset credits. The requirement should be dropped, or explanation should be provided how projections will be used and why they are necessary.

Appendix C. Estimating Carbon in Wood Products

- Recommend developing standardized spreadsheets (or other such tools) to assist POs in consistently calculating harvested wood products.

Appendix C.1 Determine the Amount of Carbon in Harvested Wood Delivered to Mills

- Recommend abandoning the use of peripheral references for wood densities since all equations provided by FIA have their own built-in wood density estimates. This will enhance consistency between calculations of other portions of the tree (using FIA supported equations) and wood products. It also would simplify a somewhat perplexing set of calculation steps.

6.2.1 Estimating Baseline Onsite Carbon – Private Lands. Step 4

- Recommend revision of language to address the challenge of independently calculating below-ground biomass since it is inextricably linked to above-ground biomass.

Equation C.2

- Recommend not striking the reference to "prior to delivery to the mill" as it would cause an error in the intent of the calculation.

Appendix C. Notes at bottom of section (page 99)

- The note that addresses the condition of biomass model producing a bole estimate, without bark, should be highlighted and take precedence over the alternative method of producing a bole estimate. We believe all biomass models provide the ability to calculate the bole biomass independent of bark and are preferred to the complex alternative. Additionally, the method is consistent with other calculations of biomass. Recommend developing the thought a bit more and moving to the top of the section. The alternative method could likely be completely removed.
- The second note on the same page is confusing and needs some clarification.

Appendix F. New language addressing Forest Service Site Class values

- Recommend defining the acronyms in this section (NIMS, for instance).
- Guidance is needed as to how landowners are expected to calculate site class; at the plot level and at the aggregate level. Are the Forest Service prediction methods clearly defined and does ARB recommend utilizing the methodologies specified in the FIA manual? Are landowners to determine an average productivity across all lands with the project area or stratify into the included definitions of high and low and develop a weighted average Common Practice?
- This draft has seen changes made to the Common Practice statistics, however there is little guidance for OPOs regarding how and whether changed Common Practice statistics will apply to projects currently listed and under development. Guidance is needed so projects in various stages of development will know how to proceed with their projects. It is recommended that projects that have been submitted be able to continue with the assumptions they used to initiate the project.

General Comments Unrelated to the Current Proposed Quantification Methodology Updates

- Overall, we suggest incorporating released FAQs into text of the updated protocol, or updating FAQs where necessary to reflect changes to protocol.

Chapter 2.2

- Recommend additional language to indicate that the Forest Owner(s) must have the capacity to effect change in the forest.

Chapter 3.2

- The language referring to viable commencement dates suggests that the commencement date for an IFM project is restricted to only the three actions listed, which is not consistent with how this section has been previously interpreted. It might be helpful to clarify whether it is intended that the three activities are the only three activities which can denote a commencement date or whether they are examples of a larger set of activities

- The language in this section states that the sustainable harvesting practices requirements must be met at the time that commercial harvesting is “either planned or initiated”. As “planned” is particularly unclear, we suggest removing “planned” and clarifying the language. As an example, the Reserve has submitted Errata and Clarifications to ARB which were approved for publication,

including a Clarification on this requirement. In it, we state "The requirement for meeting one of the Sustainable Harvesting Practices options is to be assessed at the time that a harvest plan is submitted to a state or federal agency or when commercial harvesting is initiated."

Chapter 4

- The protocol reads "…that resulted in the release of at least 20 percent of the project's above ground standing live tree biomass being emitted." This sentence is unclear, as biomass cannot be released or emitted. We suggest revising to make the statement consistent with the reforestation project definition in Section 2.1.1: "…that has been subject to a Significant Disturbance that resulted in the removal of at least 20 percent of the project's above ground standing live tree biomass."
- We recommend clarifying in this section that after the second site visit verification, the Project Area boundaries are set for the duration of the entire project lifetime.

Chapter 6.2.1.1

- The definition and procedure for determining a Logical Management Unit are unclear. As such, the Reserve drafted an Errata & Clarification to clarify the language in this section. It is replicated here:

  "A 'logical management unit' or 'LMU' is defined as either all landholdings, or any subset of the entire landholdings that are/is managed explicitly as a defined planning unit. The area of analysis for defining LMU(s) is the set of landholdings owned by a Forest Owner and its Affiliate(s) within the same Assessment Area(s) where the project is located.

  Where LMUs are subsets of the entire landholdings, they are generally characterized by having unique biological, geographical, and/or geological attributes, are generally delimited by watershed boundaries and/or elevational zones, and contain unique road networks. Additionally, where LMUs are defined as subsets of the entire landholdings and are harvested for timber, the Forest Owner must demonstrate that the volume of timber harvested over the past 10 years, scheduled for harvest in a management plan for the next 10 years, or a combination of actual historical harvest and scheduled harvest spanning a contiguous period of 10 years (i.e. 7 years of past harvest and 3 years of scheduled harvest) can be perpetuated for the next 50 years without a decline in onsite standing live carbon stocks. In the absence of a management plan that indicates harvest volumes, the standing inventory of the subset (proposed LMU) must be within 20% of the standing inventory of the landholdings owned by the Forest Owner and its Affiliate(s) within the Assessment Area(s).

  The demonstration that the timber volumes harvested or scheduled to be harvested must be conducted through modeling growth and yield with an approved growth and yield model or conducted through a stand table projection that indicates sustainable harvest levels.

  If an explicit, existing LMU containing the Project Area cannot be identified, the Project Submitter must define the LMU by identifying all lands where the Project Submitter and its

affiliate(s)(as defined above) either own in fee or hold timber rights on within the same Assessment Area(s) covered by the Project Area. Assessment Areas covered by the Project Area are identified in Step 1, above, following the guidance in the Assessment Area Data File."

Chapter 6.2.2

- The guidance in this section for developing a baseline for projects on public lands is unclear. We recommend providing additional clarity around what "comparable forested areas" and "relatively free of harvest" mean. The Reserve has provided clarity around these two terms, and the clarification provided here for reference:

  "In order to produce a consistent and standardized approach to baseline for public lands that demonstrate an increasing inventory of carbon stocks over the past ten years, a comparable forest shall be modeled from initiation out to 60 years using an approved growth model as described in Appendix B. The modeled forest shall be comparable to the project area in terms of acreage, site class and species composition. Throughout the 60-year modeling period, only commercial and noncommercial thinning for the purposes of controlling stocking levels will be allowed. The carbon stocks of the modeled forest at 60 years shall be the project baseline, and shall be considered static throughout the project life."

Chapter 10.2.6

- We suggest that a site-visit verification be required whenever confidence deductions and/or reversal risk ratings are changed. This is because changes to reversal risks and confidence deductions need to be confirmed with on-the-ground observations.
- The glossary defines "Standing Live Tree Carbon Stocks" but throughout Appendix A there are references to "Standing Live Carbon Stocks". For consistency, we suggest using "Standing Live Tree Carbon Stocks".
- For calculating the below-ground portion of standing live carbon stocks, the protocol language should clarify whether the Cairns equation is meant to be applied to the Standing Live Tree Carbon Stocks before or after deductions for defects, or at least clarify that, whether the OPO calculates it with gross biomass or net biomass, it must be consistent in both project and baseline accounting.