



To: California Air Resources Board

From: Climate Action Reserve

Re: Comments on the Draft Rice Protocol

Date: April 1, 2014

General Support:

The Climate Action Reserve supports the decision by California Air Resources Board (ARB) to develop its Rice Protocol and strongly encourages the ARB Board to adopt this protocol. The Reserve developed our own Rice Cultivation Project Protocol in 2011, and has actively engaged throughout ARB's Technical Working Group process for the Rice Protocol. Based on these experiences, we believe that the ARB staff has done an excellent job on the Draft Rice Protocol, particularly in terms of working with stakeholders to resolve concerns and improving upon existing methodologies such as ours. While we have a number of comments on the Draft Rice Protocol, we do believe many of the Reserve's concerns may be easily resolved, and ultimately we support this protocol going before the Board for adoption in the near future.

High Level Comments

Aggregation

The Reserve has been actively engaging in conversations with ARB and C-AGG stakeholders on the importance of aggregation in agricultural projects and how best to allow for aggregation in the ARB regulations. Aggregation refers to the concept of allowing multiple project proponents (or in this case OPOs) with multiple fields to aggregate their fields into a single offset project with joint reporting and verification responsibilities. The Reserve, together with C-AGG stakeholders, believes that allowing for aggregation improves project economics and eases barriers to entry of individual farmers by allowing them to rely on the technical expertise of the Aggregator (likely APD), for compliance offset project management, meeting protocol requirements, putting data management systems in place, running DNDC, etc. Further, aggregation can make Rice offset projects more viable by allowing aggregators to serve as reliable counterparties to credit buyers concerned about invalidation risk. Without allowing for aggregation, it is possible that no projects will come to fruition under this new project type.

Though the Reserve recognizes that ARB continues to have concerns about allowing aggregation in the Rice Protocol, we believe that ARB could potentially allow for aggregation without any further revisions

to the regulations if protocols, including the Rice Protocol, allowed a project area to be defined by multiple sites under multiple ownerships (and allowing, for example, multiple entities to register as a single OPO, consistent with the definition of OPO in Section 95802(a)(179)). In this regard, the Reserve is pleased to see that the ARB protocol allows for an OPO to register a single project consisting of multiple fields under the same ownership and management. Allowing such a single-participant aggregate (as this practice is known in the Reserve program) is both practical and necessary to making project implementation attractive and cost-effective for the grower. That said, the Reserve believes the protocol could more clearly state that it allows for this type of single-OPO aggregate, as well as provide more guidance on how a number of protocol requirements are implemented in the case of this type of aggregate.

For example, as all the fields managed by an OPO in a given project would be considered a single “project area,” presumably the verifier is not required to perform a site visit on each field. As such it would help to clarify whether the verifier is permitted to develop a sampling plan for fields to meet the requirement of Section 95977.1(b)(3)(D) (requiring that at least one site visit is performed for each Reporting Period in which an OPDR is submitted). Another area that could be further clarified is how the “project commencement date” should be defined if the cultivation cycle started/ended on different dates for the multiple fields within a project.

Treatment of Already Ongoing Project Activities

For purposes of ensuring additionality, it is common for offset protocols to exclude from eligibility projects that were initiated long before being submitted for registration and crediting. The presumption is that, if an actor has engaged in particular activity for a long period of time before applying for carbon offset credits, the activity is not likely to be additional. The current protocol draft seems to have ambiguous and/or inconsistent requirements related to such ongoing activities.

For example, Section 3.6(a) defines the project commencement date as “the first day of the cultivation cycle during which a project activity is first implemented.” It is not clear whether “first implemented” refers to the first time an activity was ever implemented on a field, or only to the first time within a cultivation cycle. If the latter, then it would appear that ongoing implementation of a practice implemented in prior years could still be eligible for crediting.

The question then becomes how and to what extent ongoing practices are reflected in the baseline for a project. On this issue there seem to be two different approaches, based on geographic location (Section 5.2.2.1). For California projects, the baseline will reflect continuation of recent historical practices related to fertilization, flooding, draining, and harvest. Under this approach, farmers that were already engaged in project activities in prior years may not be able to reduce emissions significantly below baseline levels. For Mid-South projects, baseline practices are determined using the DD50 model, which may or may not reflect what individual farmers were doing before submitting a project. Under this approach, farmers may be able reduce emissions below the modeled baseline, even if they have been consistently engaging in project activities for many years.

The Reserve is aware that there are important policy issues to consider around the inclusion or exclusion of “early adopters” in any offset protocol. Viewed strictly from an additionality perspective, however, it may be problematic to allow an ostensibly non-additional class of projects (i.e., those simply continuing already ongoing practices) to receive credit. It would help to clarify how such projects will be treated and ensure ongoing project activities are treated consistently in the baseline across geographic regions.

Eligible Locations (Section 3.2)

For Rice Projects in California, the Draft Rice Protocol is only applicable in the Sacramento Valley but not the nearby San Joaquin Valley, and ARB has stated that the reason for this decision is that DNDC has not been properly calibrated and validated for the San Joaquin Valley. The Reserve recognizes that data used for calibration of DNDC for rice in California comes from sites north of Sacramento, and that validating DNDC with additional data from the San Joaquin Valley would be preferable, if it were available. However, we note that ARB determined that DNDC was appropriately calibrated and validated for the rice growing regions in Arkansas, Mississippi, Missouri and Louisiana based on only two study sites. The Reserve is not aware of any differences in soil type, environment, or climate between the Sacramento and San Joaquin valleys that would be significantly greater than differences between the Mid-South study sites and the rest of the eligible Mid-South region. Unless there are such differences, the Reserve recommends allowing projects in both the Sacramento and San Joaquin valleys, in line with the broad eligibility established with a similar amount of data to validate and calibrate DNDC in the Mid-South.

Technical Comments (in order of protocol)

Section 1.2 Definitions

Cultivation cycle: The protocol uses the term “cultivation cycle” in several places, but this term is not defined. This term could perhaps be replaced with the term “cropping cycle” or “cultivation year”, both defined in the COP, to ensure consistency.

Section 2.2 Early Drainage Activities

At this time, the Reserve is unable to comment on either the appropriateness of the 75% heading threshold, or the stipulation that “standing water cannot be drained within 25 days after seventy-five percent heading,” both of which define eligibility for the Early Drainage practice, as it is unclear how these specific thresholds were derived. According to stakeholder input during the Reserve’s protocol development process, the appropriate threshold should be approximately 5-7 days earlier than the “typical” drain date. Ultimately, the Reserve did not adopt a threshold for early drainage due to a lack of data about the project activity. It may be useful to identify what the “typical” or “business-as-usual” indicator for drainage date is.

Chapter 3 Eligibility

3.1(a)(1) & (4): The Draft Rice Protocol allows for as few as 2 years of rice cultivation within the 5 year baseline period, while the Reserve’s Rice Protocol requires at least 4 out of 5 years of rice cultivation. Part of the reason for the Reserve’s requirement was to prevent a situation where, due to activities incentivized by the protocol, there could potentially be an increase in rice production by OPOs and a subsequent net increase in emissions from these rice fields while also earning offsets. We support ARB’s effort to be inclusive of rice growers who have more than one year of fallow in their baseline period, but recommend ARB explore mechanisms to guard against any unintended adverse outcomes.

3.1(a)(2) The protocol limits the ability to switch rice cultivars during the crediting period from what was grown during the baseline. However, the protocol does not explicitly state it must be the same cultivar, but rather must have the “same maturity characteristics,” which is loosely defined. Is this intentionally flexible? If not, the Reserve encourages ARB to provide more specifics as to what characterizes “the same maturity characteristics”. This rule may present a barrier to the adoption of more GHG-efficient cultivars. The Reserve encourages ARB to explore options for allowing an OPO to switch to cultivars with differing maturity characteristics, perhaps by updating a project’s baseline in future reporting periods.

3.1(a)(3) If management practices within a field become heterogeneous during the term of a project, it is unclear whether this will result in the creation of multiple new eligible fields, or whether this would result in the exclusion of such fields. If the former, ARB should give further consideration and provide guidance on how to set an appropriate baseline for the new fields.

3.1(a)(8) The Reserve encourages ARB to group the restriction on wild rice with the other eligibility criteria (3.1(a)(1,2,4) related to eligible rice cultivars, as well as more clearly state that fields growing wild rice cultivars in either the baseline period or project reporting periods are not eligible.

3.6(a) As noted above, the Reserve is concerned that “offset project commencement date” is not defined clearly enough to distinguish whether “first implemented” refers to the first time an activity was ever implemented on a field, or only to the first time within a cultivation cycle.

Chapter 4 GHG Assessment Boundary

ARB is requesting stakeholder input on the project GHG emission boundary; Reserve responses are included immediately after the respective questions:

- 1. For crop residue removal, how should we account for any off-site emissions? The off-site emissions may include rice straw end-use emissions.**

It is the Reserve’s understanding that none of the three project activities are likely to result in a change to rice straw residue management. Any change to management of rice straw residue would likely be due to reasons beyond the project, meaning that any “rice straw end use emissions” would not be due to the project. Further, because the impact of rice straw residue on soil dynamics is already inherently included in DNDC via SSR 1, SSR 6 and SSR 7 are likely unnecessary and may not need to be included as distinct sources.

2. Is it likely that there will be little increase in GHG emissions from SSR4 and SSR5 as a result of project activities? What are the technical challenges to include these emissions sources?

The Reserve is not aware of any foreseeable significant increase in either fertilizer demand or herbicide demand due to project activities. Additionally, given fertilizers and herbicides are internationally traded commodities, prices are relatively inelastic and should be fairly insulated from any minor increases in demand for fertilizer or herbicides due to project activities. Technical challenges for including such sources may include: the sources are outside the management control of OPOs/APDs and data may be trade sensitive or otherwise difficult to come by.

Chapter 5 Quantification

Missing Data:

The Reserve believes it will be imperative to develop a methodology to account for instances where data is missing for necessary DNDC input parameters, particularly 3rd party data (like climate data) over which the OPO has no control, as the DNDC model requires a full set of data in order for the model to run.

Section 5.2 Modeled Primary Emissions Reductions:

5(2)(c) Though the protocol provides extensive guidance on what data should be input into DNDC, the protocol does not specify the necessary format for inputting that data into DNDC, other than to state that the DNDC data format must be consistent with an unnamed version of the DNDC User Guide, to be available on ARB's website. The Reserve believes this level of guidance will be critical for protocol usability, streamlining the development of projects and reducing costs for both project developers and verifiers. Sufficient guidance should be included in either the forthcoming DNDC User Guide, or elsewhere, such as in a template for inputting data.

5.2(c)(3) It is likely unnecessary to require data on 'plastic' or 'grazing' info for rice projects, as the Reserve understands these practices to be uncommon in rice growing, though presumably the OPO could enter 'N/A' or similar each time.

5.2.2.1 Baseline Scenarios Establishment

See the high-level comments section for feedback on overall proposal of baseline setting.

5.2.2.1(g) Should clarify that the requirements for establishing the flooding date apply to the baseline flooding date, as is done for the other parameters.

5.2.2.1(l) Should specify that the baseline scenario rice yield will be established using an average of each baseline period rice yields – if that is what is intended.

5.3.1 Secondary Source Emissions from Fossil Fuel Combustion

ARB is requesting stakeholder input on quantifying project emissions from cultivation equipment; Reserve responses are included immediately after the respective questions:

- 1. To ensure the maximum accuracy for reported emissions from cultivation equipment, equation 5.9 must be more conservative than equation 5.8, which should be more conservative than equation 5.7. Are the numbers presented in these three equations reflecting this logic?**

The Reserve's Rice Protocol uses all three of these equations, with the intention of providing options that were approximately equivalent. The Reserve acknowledges that the use of actual fuel data in Equation 5.7 will most likely furnish the most accurate results, and this may justify more conservative approaches for the other two equations. However, neither of the other two options (Equations 5.8 and 5.9) appears inherently more accurate than the other, nor did the Reserve originally develop these equations to explicitly be more conservative. As currently written, the Reserve does not believe that the equations achieve the stated hierarchy.

6.2 General Document Retention:

The Reserve believes the documentation requirements in Section 6.2 are appropriate. However, it would help to clarify that sections 6.2.1, 6.2.2, and 6.2.3 are requirements applicable only to projects implementing the respective project activity, and that this information is only required for the project reporting period in which the activity is implemented (as opposed to the baseline). If these photographic documentation requirements are intended to be applied to the baseline period, the Reserve believes this may delay the implementation of projects and exclude already ongoing activities, as it is unlikely projects will have this data for previous years. Finally, all photographic documentation requirements should be applied consistently across project activities, unless there is a reason for them not to be (i.e. coordinates and a newspaper).

Chapter 7 Reporting

7.1(b)(7-8) While the Reserve believes requiring information about ownership and operational structures is important at listing, it may be unnecessary to require documentation such as a title report or lease at the listing phase, particularly if this information will be made public. As rice growers tend to be concerned about privacy, requiring submittal of such additional private documents so early in project development may deter prospective OPOs. However, if the protocol explicitly stated that such documents will not be made public, such a requirement would likely be more palatable to stakeholders.

7.2 Offset Project Data Report

7.2(c)(17) While the Reserve recognizes that transparency of offset projects is a high priority of ARB, we believe that requiring all "project baseline scenario parameters for each field" be included in each OPDR could be problematic for OPOs. Rice growers are particularly sensitive to sharing information with other

farmers and general public about the intricate details of their rice growing practices, and may be concerned that all such information will be made public in the OPDR. Further it is not clear from the wording of this requirement if all DNDC inputs for the baseline are required; a reference to the relevant baseline inputs required in Section 5.2.2.1 would improve clarity. That said, the Reserve encourages ARB to scale back this requirement to a lesser degree of baseline inputs disclosed, or alternatively, allow for OPOs to submit such DNDC inputs in a private document, shared only with ARB, OPRs, and verification bodies.

Chapter 8: Verification Requirements:

The Reserve is pleased to see the inclusion of a section on “verification requirements” in the protocol, as we believe this is the most appropriate place to include requirements specific to how verification should be performed on a given project type. For example, this section would be a good place to include guidance on how verification sampling might be implemented on a single-participant aggregate with multiple fields.

Appendix A

Appendix A is meant to include management records required for the baseline period, however Sections (b), (c), and (d) seem to require information necessary to run DNDC in all circumstances, regardless of practice implemented. It would help to more clearly state that Section (b), for example, includes the list of information on baseline practices for fields choosing to implement the “dry seeding” project activity in the reporting period, but that this section is otherwise not required for fields implementing other project activities, if that is in fact the intent. As a second example, in relation to the soil moisture sampling requirement (d)(2), the Reserve believes if these requirements were applied to the baseline period, this would likely delay project commencement and exclude already ongoing activities, as it is unlikely projects will have this data for previous (baseline) years. Finally, it is unclear whether OPOs in the Mid-South, who must use DD50 to set their baseline, would be required to report on actual field data or something else.

Appendix D

ARB is requesting stakeholder input on the sufficient number of runs to simulate a Monte Carlo analysis; Reserve responses are included immediately below:

The Reserve supports the use of alternative approaches that provide flexible, efficient and robust options to projects, so long as the alternatives result in equally conservative calculations. It appears that Method 2 in Appendix E, the proposed Max/Min method, could be a suitable alternative to the 2000 model runs in Method 1, although the Reserve has not undertaken sufficient analysis to comment authoritatively on this issue. While 2000 runs of Monte Carlo simulation is a reliable and recognized way of determining the potential soil input uncertainty, it is one of the more time consuming aspects of

running DNDC for quantification purposes. Reducing the number of required runs certainly helps, but it is unclear from the information currently presented to stakeholders whether the two methods are equally accurate in estimating the soil input uncertainty. ARB should perform an analysis comparing modeling results using the two methods to demonstrate that the two methods consistently calculate similar results for the modeled GHG estimates.

Further, the Reserve has clarifying questions with regards to how Method 2 might be fully incorporated into the quantification methodology itself. Is there some sort of tradeoff (e.g. an additional deduction) that must be taken if an OPO decides to use Method 2? Presumably, Method 2 would need to account for (or deduct) a higher level of uncertainty to be a “conservative” value, due to the more limited number of model runs, but as currently written, there does not seem to be any additional deduction taken for utilizing this method. Further, it seems like additional revisions would be necessary to both Appendix D and Section 5 to clarify how the equations (particularly 5.2 and 5.3) would be adapted for OPOs implementing Method 2.

The Reserve believes that the efficiency gains realized by implementing Method 2 would likely justify an OPO taking a slightly larger uncertainty deduction (assuming Method 2 would ultimately include such a deduction), but the Reserve believes it is important for analysis to be performed by ARB to better understand the strength of both methods and for developing appropriate compensatory measures to offset any additional uncertainty introduced.