

Summary of Proposed Protocol Amendment

The Voluntary Emission Reductions in Rice Management Systems, v1.0 under the American Carbon Registry uses the DNDC model to predict and quantify emission reductions achieved through adopting specific practices on rice producing fields in California and the Mid-South. In this methodology, a Historical Period of 20 years is required before the start of the crediting period in order to ensure the model has reached an equilibrium for certain critical variables.

Section 7.1 Duration and Structure of Model Simulations (pg 23) of the parent methodology states: “The duration of a DNDC model simulation must be at least 20 years before the start of the Crediting Period so that the model can attain equilibrium in certain critical variables for which empirical data is lacking, such as the sizes and the quality of the different carbon pools, and the inorganic nitrogen contents of soil pore water. This period is referred to as the Historical Period. In case a Field Specific Baseline is used, the Model Parameters for the 20-year Historical Period must be set by repeating the frequency of historical occurrence of Project Activities during the last five years before the start of the Crediting Period four times, while using the management parameters of at least three out of five years before the start of the Crediting Period unless otherwise noted. However, if rice was grown only two out of the past five years, two years of historical data are sufficient to parameterize the DNDC model.”

There are no specific instructions for a common practice baseline. Upon consulting with Bill Salas from Applied Geo-Solutions, it was clarified that this same method for developing the 20-year Historical Period stated above for the Field Specific Baseline can be used for the practices of Dry Seeding and Intermittent Flooding. In the case of Baling, if the practice was applied on field before the start of the crediting period, using the field specific agronomic data in the historical period will affect the modeled soil parameters, thereby impacting the resulting emissions reported for the baseline and project period. Instead, if the common practice baseline developed for that field is used and repeated three times to create a 15-year Historical Period before the practice start date and the real field historic data is used for the 5 years before the crediting period start then the model will more accurately represent real field conditions. Please see the table below for details.

Table 1 Schematic of the modelling period for baling if practice is adopted before crediting period

Year -20 to -15	Year -15 to -10	Year -10 to -5	Year -5 to 0	Year 0 to 5	Year 5 to 10
Historical Period using the common practice data			Use of actual field data	Crediting Period	
Model Equilibrium			Crop Yield Calibration	Period 1	Period 2