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## **Nitrogen Management Project Protocol Summary of Changes from Version 1.1 to Version 2.0**

October 17, 2017

The Nitrogen Management Project Protocol Version 2.0 incorporates the following significant changes from Version 1.1.

### **Section 2 The GHG Reduction Project**

- Approved 2 new eligible practices, 8 new eligible crops, and 22 new eligible states for a total of 3 eligible practices, 10 eligible crops and 34 eligible states (Section 2.2)
- Introduced multiple new flexible aggregation mechanisms (Section 2.4):
  - Expanded to allow for in-project aggregation: multiple farmers, fields, crops, and regions can now come together under a single project
  - Introduced cooperative structure used in the Reserve's Grassland Project Protocol (GPP) V2.0
  - Introduced methods to facilitate movement of fields in and out of projects, and projects in and out of cooperatives
  - Removed Field Size Limits

### **Section 3 Eligibility Rules**

- Start date / submittal requirements distinguish between project and fields (Section 3.2):
  - Project must be submitted within 12 months of start date of projects first field
  - Additional fields must be submitted within 24 months of each field start date
- Updated guidance to incorporate the variability between field and project reporting periods
- Introduced flexibility to allow projects to not seek CRTs on field basis, for given reporting period (Section 3.3)
- Expanded crediting period from five years to ten reporting periods, with option to renew crediting period once, for total maximum 20 reporting periods (Section 3.3, Section 3.4)
- Significant updates to PST to simplify, expand temporally and fixate spatially:
  - Simplified Nitrogen Use Efficiency (NUE) metric from the Removed to Applied (RTA) ratio to Partial Factor Productivity (PFP) (i.e., yield divided by N rate) (Section 3.5.1.1)
  - Created multi-year county- and crop-specific average N rates and PFP values to serve as benchmarks for common practice assessment; expanded from annual State- and crop-specific average N rates and RTAs (Section 3.5.1.1, Appendix B)
- Updated Legal Requirement Test guidance such that only where regulation imposes quantitative limits on N rate applications will the fields in question be ineligible, except for reductions in excess of such requirements (Section 3.5.2)

- Developed user-friendly tool in Microsoft Excel – Nitrogen Management Project Eligibility Lookup Tool – to assess eligibility of select activity-crop-region scenarios and provide county- and crop-specific benchmark N rates and PFP values

## **Section 5 Quantifying GHG Emission Reductions**

- Added new quantification methodology and developed new user-friendly quantification tool in Microsoft Excel – NMQuanTool – to calculate (direct and LVRO) N<sub>2</sub>O emission reductions, pre-adjusted for uncertainty, from the implementation of eligible project activities (Section 5.1)
- Added equation to calculate percentage reduction in synthetic N rate from baseline to project for use in NMQuanTool (Section 5.1)
- Shortened baseline look-back period from 5 to 3 years (Section 5.1.2)
- Introduced 2 hierarchical flexible approaches for determining baseline N rates for use only in the absence of historical records (Section 5.1.2.1)
- Expanded project N rate equation to include potential increases in N from previous cultivation years and leakage (Section 5.1.3)
- Added new procedures to account for increases in synthetic and organic N rate applied during cultivation years in which CRTs are not earned (Section 5.1.3.1, Section 5.1.4.4.1)
- Modified leakage procedures to proportionately increase project N rate (Section 5.1.3.2)
- Modified and added new equations to account for increases in N<sub>2</sub>O emissions from increases in organic N rate in all eligible regions (Section 5.1.4)
- Updated to direct that CO<sub>2</sub> emissions from the use of cultivation equipment in the project will be excluded if changes are reasonably assured to be *de minimis* relative to baseline use (Section 5.2)

## **Section 6 Project Monitoring**

- Consolidated multiple sections from previous version into single abbreviated section & modified field and project data monitoring requirements to reflect updated eligibility criteria and quantification methodology (Sections 6.1, 6.3 and Table 6.1)
- Added new guidance on monitoring requirements for the new cooperative management structure (Section 6.2)
- Removed Corn Stalk Nitrate Test (CSNT) requirements

## **Section 7 Reporting and Record Keeping**

- Updated project monitoring report guidelines to streamline guidance, clarify requirements, introduce guidance for new cooperative structure (Section 7.2)
- Consolidated verification cycle options to reflect updated reporting period requirements (Section 7.4)

## **Section 8 Verification Guidance**

- Updated to reflect updated monitoring and reporting options and to further streamline verification guidance (Section 8.2)