

## **Guidance Document—NC 590 Nutrient Management Standard Supplement**

**Background:** In January 2012, NRCS released a revised national 590 conservation practice standard, as well as new General Manual nutrient management policy, which contains guidance and procedures for NRCS employees providing technical assistance in nutrient management planning (as well as Technical Service Providers and non-NRCS employees when implementing federal conservation programs).

The October 2013 NC 590 standard supplement reflects the following priorities for use: (1) meeting national 590 standard and policy objectives for identifying and mitigating significant nutrient loss risks; (2) providing clarity to field staff for use of PLAT, (3) merging relevant items into 590 from the old 633 Waste Utilization standard; (4) integrating specific issues not addressed in national 590 for plan modification requirements by using parameters in NC 1217 Interagency Group guidance; (5) making 590 ‘cleaner’ and more reader-friendly to facilitate better user implementation; and (6) integrating effective NC-developed implementation strategies into the overall context of standard application.

Along with the new NC 590 standard, a revised 590 Nutrient Management Job Sheet has been developed as well, with an emphasis on nationally required phosphorus-related producer information and documentation.

The 633 Waste Utilization conservation practice standard has been removed from the NC NRCS Field Office Technical Guide. Although it has been replaced in national NRCS conservation practices by “Waste Recycling”, NRCS in NC has determined this standard is not currently applicable to typical NC resource planning situations. 590 Nutrient Management is now the only NRCS practice standard relevant to land application of agriculturally-based nutrients to field crops and forages.

### **NC 590—Standard Emphasis Points and Guidance for Implementation of Criteria**

**1) Issue:** How are land units determined for planning 590 and application of nutrient risk assessment tools criteria?

**590 Standard Criteria Section:** Not specifically addressed

**Guidance:** The types of technical assistance typically provided to producers in NC ranges from development of new nutrient management plans on ‘new’ land to modification of existing plans on a few previously planned fields. Often, it can be difficult to determine the correct planned land units for practice 590 when it is included in a conservation plan linked to providing nutrient management technical assistance. Sorting out what land units are ‘planned’ in a particular instance of assistance is particularly relevant to applying standard criteria to use of nutrient risk assessment tools—Nitrogen Leaching Index and PLAT—as nutrient management plans are developed in NC based on specific ‘fields’ where nutrient land application occurs. As such, and considering the standard-wide concept of using NC 1217 Interagency Group guidance to determine requirements of plan modifications, use the following as a guide for determining 590 planned land units and application of nutrient risk assessment tools criteria:

- New Plans (commercial fertilizer and manure)—Plan 590 in conservation plan; apply nutrient risk assessment tools criteria on ALL FIELDS
- Existing Plan Modifications (primarily manure)
  - Plan Amendments as defined by 1217 Interagency Group Guidance = Minor changes—Plan 590 in conservation plan; apply nutrient risk assessment tools criteria on FIELDS AFFECTED by the planned changes
  - Plan Revisions as defined by 1217 Interagency Group Guidance = Major Changes—Plan 590 in conservation plan; apply nutrient risk assessment tool criteria to ALL FIELDS
- Producers may also request a complete plan modification that applies the most current values as referenced in 590 standard criteria. In this case, plan 590 in conservation plan; apply nutrient risk assessment tools criteria on ALL FIELDS.

2) **Issue:** Are NRCS national policy directions integrated into 590 standard criteria?

**590 Standard Criteria Section:** Multiple, throughout standard

**Guidance:** Two distinct national NRCS policy documents were released in 2012 along with the national revision of 590—National Nutrient Management Policy (GM 190 Part 402), and a National Instruction for Nutrient Management Policy Implementation (NI 190 Part 302), which was primarily composed of national criteria for development of nutrient risk assessment tools and instructions on how to implement planning criteria related to risk assessment tool results. In NC, emphasized NI and Policy requirements have been rolled into NC 590 standard criteria. 590 planners will not have to refer to multiple documents to determine planning adequacy relative to NRCS ‘policy’. In short, meeting 590 standard criteria = meeting NRCS ‘policy’ requirements as well.

3) **Issue:** When is the Nitrogen Leaching Index (LI) required on planned fields?

**590 Standard Criteria Section:** General Criteria

**Guidance:** A primary objective of 590 planning is to identify land application fields where there is substantial risk of nitrate losses and to subsequently include mitigating practices in the conservation plan. The LI must be determined through use of Soil Hydrologic Groups and maps from Sec II of the NRCS FOTG OR through use of RUSLE 2 planned land until soil loss evaluations on ALL PLANNED FIELDS (see guidance on determining planned fields in “1” above). The LI is a part of the planning documentation generated by the current NC Nutrient Management Software, but the column must be manually populated by the planner.

4) **Issue:** When is PLAT required to evaluate P loss risk on planned fields?

**590 Standard Criteria Section:** General Criteria

**Guidance:** An additional primary objective of 590 planning is to utilize PLAT at sufficient intervals to ensure that manure P is not applied at rates exceeding the risk assessment planning criteria at any given time. In the last version of 590, there was ambiguity as to 'when' PLAT was required. The new NC 590 provides an additional level of clarity through development of NC-specific criteria for when PLAT is required. After a planner determination of the planned fields, a 2-step process is outlined in General Criteria to determine whether PLAT is required: (1) A determination of whether PLAT is applicable; and (2) Use of NC Interagency Nutrient Management Committee (INMC)-approved conditions of where risk of P loss is 'low'. Where PLAT is applicable, and where the planned field does not meet the 'low risk' criteria, PLAT is required.

Reminders on PLAT: NC or NPDES permitted operations can be required by the permitting authority to run PLAT on land application fields included in the nutrient management plan at any time in accordance with the facility's permit. Also, PLAT soil erosion data input must be derived from RUSLE 2 for the 'most erosive crop' in the waste application crop rotation. The purpose of this is to ensure that P loss risk is assessed in the 'worst case scenario' for potential particulate P losses.

5) **Issue:** If I have to run PLAT on planned fields in an existing nutrient management plan, does that mean the entire plan must be redone?

**590 Standard Criteria Section:** Not addressed specifically, plan modifications addressed in General Criteria and Plans and Specifications

**Guidance:** Re-running PLAT does not mean an existing Nutrient Management plan must be modified. If new PLAT risk ratings do not result in different P application criteria for the planned fields (ie, the 'old' PLAT rating = LOW or MEDIUM and the 'new' PLAT rating = HIGH), then the land application aspects of the existing plan could remain the same, dependent on how any proposed plan changes fall into plan modification categories addressed in 1217 Interagency Guidance.

6) **Issue:** How does NC 590 deal with use of 'old' plan development factors when technical assistance is requested to modify an existing nutrient management plan?

**590 Standard Criteria Section:** General Criteria, Nutrient Management Plan Development section

**Guidance:** Manure nutrient values, Nitrogen factors, Plant Availability Coefficients, and animal waste generation volumes that met accepted NCSU/NRCS guidelines at time of plan development may continue to be included in 590-based plans unless a 'major modification' of the plan is required or requested by the producer. Historically accepted planning values may continue to be utilized in plans when technical assistance is provided to complete a minor modification (plan amendment) for an existing plan.

Major modifications (plan revisions) and minor modifications (plan amendments) are defined in current SB 1217 Interagency Group guidance in Sections 1.4, 1.5, and 1.6. The most current 1217 IG Guidance Document is available at: <http://www.ncagr.gov/SWC/tech/1217committee.html>.

Fields added to existing nutrient management plans for manure application must utilize the most current information available from the NCSU NC Nutrient Management website.

NRCS 590 aligns with 1217 Interagency Guidance on plan modifications. This issue was not specifically addressed in national NRCS 590 standard or policy direction. The specified approach in NC 590 on plan modifications promotes consistency among state-level partners that provide nutrient management planning technical assistance across the state, and avoids conflict with state-level Clean Water Act compliant guidance utilized by the NC permitting authority, NC DWR.

7) **Issue:** Can 590 criteria be met on fields that are eroding at a rate greater than “T”?

**590 Standard Criteria Section:** Additional Criteria to Minimize Ag Nonpoint Source Pollution of Surface and Groundwater

**Guidance:** Yes, but a site assessment (resource inventory) must be conducted to determine the need for mitigation practices that reduce sediment delivery and surface runoff. The primary overall nutrient management planning goal is reduction of nutrient losses from land application fields. Control of erosion and sediment delivery to streams are particularly important to reducing particulate and soluble P surface runoff losses. Practices that address those resource concerns can also reduce the overall PLAT risk rating score as well. When erosion exceeds T on a manure land application field, a PLAT assessment is recommended to determine how excessive soil losses affect the overall PLAT rating score. Planners should keep in mind that where manure is applied, CNMP planning and application technical criteria may require reduction of field erosion to “T”.

8) **Issue:** Is “Third Party Applicator” documentation a required part of a 590-based nutrient management plan?

**590 Standard Criteria Section:** General Criteria, Nutrient Management Plan Development section

**Guidance:** The old 633 Waste Utilization standard included ‘official’ NRCS waste transfer agreement documents. However, the foundation of 590 is criteria that detail how to apply nutrients properly in land application situations. Waste transfer agreements previously included in 633 are not relevant to current 590 criteria for how nutrients should be applied. Producers can only make decisions to apply 590 on land he owns or controls. Thus, third party applicator information has been determined to be a Comprehensive Nutrient Management Plan (CNMP) documentation issue, and not a 590 technical issue. CNMP land application criteria only apply to land owned or controlled by the producer as well. In short, only manure waste applied to land owned or controlled by the producer must be included in a 590-based nutrient management plan. Compiled information pertaining to manure waste applied to land not owned or controlled by the producer can be a part of the CNMP document record. CNMP technical criteria require documentation of the amount of facility-generated manure exported ‘off the farm’.

9) **Issue:** Are there changes in the categorical manure nutrient application criteria for PLAT results?

**590 Standard Criteria Section:** Additional Criteria Applicable to Properly Utilize Manure as a Plant Nutrient Source, Manure Nutrient Application Rates section

**Guidance:** No. Although there are nationally developed P loss risk categories outlined by National Instruction 190-302, modeled P losses represented by the national categories, and the manure nutrient application criteria associated with these national categories, are equivalent to the existing, NC-developed PLAT results categories and required planned application criteria. The NC-specific PLAT rating categories, equivalent national P loss risk categories, and NC Manure Application Criteria is written into NC 590.

10) **Issue:** What is included in the revised 590 Nutrient Management Job Sheet?

**590 Standard Criteria Section:** Plans and Specifications, Post PLAT Planning Requirements

**Guidance:** NRCS National Instruction 190-302 requires certain additional P-related planning documentation as part of the nutrient management plan ‘when soil test Phosphorus is expected to increase’. Typically, this would occur in manure nutrient application situations where P is applied to the land application crop at a Nitrogen-based rate. In NC, these P-related informational requirements are included in the revised NRCS 590 Job Sheet, as they are not currently generated by the NC Nutrient Management software plan document output. The additional P-related planning information included in the revised 590 Job Sheet includes:

- Producer information on PLAT categories “HIGH” and “VERY HIGH”
- Producer information on a “P drawdown strategy” to reduce soil surface Phosphorus
- Conservation practices and management techniques to reduce P loss potential

This document will likely be revised periodically as implementation issues and questions arise. Reading and comprehending the revised 590 standard is imperative for proper and appropriate implementation of the criteria therein. For additional information or specific guidance on 590 planning and/or implementation, or to request an addition issue to be added to the guidance document, please contact Josh Spencer, NRCS State Water Quality Specialist at [josh.spencer@nc.usda.gov](mailto:josh.spencer@nc.usda.gov) or 919-873-2120.