

Guidance Document for Nutrient Management Plans (Compliance with the 2008 EPA CAFO Final Rule)

The Environmental Protection Agency's (EPA) 2003 Confined Animal Feeding Operation (CAFO) Final Rule required that National Pollutant Discharge Elimination System (NPDES) permitted facilities develop and implement a Nutrient Management Plan (NMP) addressing nine minimum requirements deemed necessary to achieve effluent limitations and standards. As a result of the *Waterkeeper Alliance et al. v. EPA* court decision, the 2008 CAFO Final Rule now requires facilities to submit a NMP for public review prior to obtaining or modifying NPDES Permit coverage. Furthermore, the NMP must cover the entire period of permit coverage, and certain site-specific information and protocols necessary to ensure the nine minimum requirements are met must become terms of the NPDES Permit.

As a result, the Kansas Department of Health and Environment (KDHE) will consider the following site-specific information included in a NMP to be terms of a NPDES Permit:

1. Fields available for land application, including legal locations and spreadable acreages;
2. Land application rate limitations determined in accordance with the Kansas Technical Standard for Nutrient Management ("agronomic N rate", "agronomic P rate", "1.5 X crop P removal", "1.0 X crop P removal", or "none");
3. Mortality management plans;
4. Site-specific conservation practices with respect to setbacks, buffers, and equivalent practices; and
5. The approach chosen for developing field-specific application rates and certain factors necessary for determining such rates. The CAFO must choose from two allowable approaches described in the 2008 CAFO Final Rule, the "linear approach" or the "narrative rate approach". Either approach must be in accordance with the Kansas Technical Standard for Nutrient Management.

Linear Approach

Under the linear approach, the following information will be considered terms of the permit:

1. For each field and each year of permit coverage, the crop(s) to be planted or other uses, predicted credits for N in the field that will be plant-available, total pounds of N and P to be applied as waste, and total pounds of N and P to be applied as synthetic fertilizer;
2. For each field and each year of permit coverage, a schedule of nutrient applications that includes the form, source, timing, and application method for both organic waste and synthetic fertilizer;
3. For each crop or use specified in (1), realistic yield goals, and N and P requirements;
4. The methodology for determining the amount of N and P in the waste that will be plant-available, so that each year the volume of waste to be applied can be calculated based on the most recent manure analysis.

Essentially, the above items constitute a management "timeline" that must be followed as a term of the permit. Any deviations to this "timeline", (for example, a change to the cropping rotation or waste application method) could be considered a modification of the permit, triggering the public notice and comment process.

Narrative Rate Approach

Under the narrative rate approach, the following information will be considered terms of the permit:

1. For each field, the intended crop(s) to be planted or other uses, as well as any alternative crops that may be planted that are not included in the intended crop rotation;
2. For each crop or use specified in (1), realistic yield goals, and N and P requirements; and
3. The methodology used to calculate application rates, including appropriate protocols and sources of information used (e.g. availability factors) to account for the following factors: credits for plant-available N in the field, the amount of N and P in the waste that will be plant-available, consideration of multi-year P applications, and accounting for any synthetic fertilizer applied.

A narrative rate plan must still include projected nutrient management decisions for the period of permit coverage, similar to the linear plan; however, these projections are not terms of the permit. The narrative rate approach is intended to provide CAFOs with more flexibility regarding land application decisions. For example, a CAFO's plan may state that a field is intended to receive wastewater via gated pipe, but a CAFO may use a traveling gun, provided the methodology in the plan can account for the different application method.

Changes May Require Public Notice

Whenever changes to the NMP become necessary, facilities are required to submit updated plans to KDHE for review. Because the above mentioned site-specific items will be terms of the permit, certain changes to the NMP may result in a permit modification, thus, triggering the public notice process. Accordingly, KDHE has concluded that the following changes to the NMP will require a permit modification:

1. The addition of new land application areas;
2. An increase in the phosphorus loss risk assessment for a field;
3. An increase in the land application rate limitation (e.g. switching from a crop P removal limitation to an agronomic N limitation);
4. A change in mortality management plans;
5. A change to or addition of any KDHE approved compliance alternatives to the standard setbacks and/or buffers required when land applying waste;
6. For linear plans, any changes to the planned crops or schedule of nutrient applications (including the planned form, source, timing, and application method) for both organic waste and synthetic fertilizer, for each year of NMP coverage;
7. For narrative plans, any changes to the methodology used to calculate application rates, or the addition of any crop that was not included in the NMP as a potential alternative; and
8. Any other changes to the NMP that KDHE believes would increase the risk of N or P loss to waters of the State.