



Livestock and Poultry Environmental Stewardship (LPES) curriculum

CAFO Fact Sheet series

Fact Sheet #20: What is Required in a Nutrient Management Plan?

Disclaimer

This document has been reviewed by EPA and provides a general description of the federal concentrated animal feeding operations regulations (40 CFR Parts 9, 122, 123, 412). For more detailed information, refer to the regulations or contact EPA. Also, your state may have additional, more stringent requirements than EPA's. Contact your permitting authority for complete information on the regulations that apply to you.

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By Ron Sheffield, University of Idaho, and Julie Paschold, University of Nebraska

Introduction

As a part of the U.S. Environmental Protection Agency's (EPA) Concentrated Animal Feeding Operation (CAFO) Final Rule, all CAFO owners are required to apply for a National Pollutant Discharge Elimination System (NPDES) permit. Part of the process includes developing and implementing a Nutrient Management Plan (NMP). At a minimum, an NMP must include Best Management Practices (BMPs) and, for large CAFOs, procedures necessary to achieve effluent limitation guidelines (ELGs).

CNMP vs. NMP

The comprehensive nutrient management plan (CNMP) is a USDA-defined plan that minimizes nutrient excretion, ensures proper storage of manure and manure-contaminated water, specifies the application of manure nutrients at agronomic rates, and requires the maintaining of appropriate records. The NMP required for an NPDES permit is designed to be a subset of activities in a CNMP that relate to compliance with the effluent discharge limitations and other requirements of the NPDES permit.

Phosphorus-Based NMP

EPA is requiring large CAFOs to evaluate the potential for both nitrogen (N) and phosphorus (P) loss on every field receiving manure, litter, or process wastewaters. Manure applications may be limited or eliminated on fields that have a high potential for P loss. Medium and small CAFOs are required to "land apply manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater."

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Time Line for Compliance

Owners of livestock and poultry operations with an NPDES permit must implement the NMP as specified by the state regulating agency but no later than December 31, 2006. Owners of CAFOs that are new sources as well as CAFO owners seeking a permit after that date must have an NMP developed and implemented on the date of permit coverage. Producers should check their permit for the required implementation date.

Producer Checklist: NMP

Producers can use the checklist below to identify mandatory issues that an NMP must address. Unchecked items represent issues that may need additional attention. In preparing an NMP, it is critical that the following planning, management, and documentation procedures are in place for all CAFOs.

Facility Design and Management

- ___ Develop and implement an NMP.
- ___ Ensure that the production area is designed, maintained, and operated to contain all of the manure, litter, and process wastewater including storm water plus runoff from the 25-year (or 100-year for new swine, poultry, or veal operations), 24-hour rainfall event.
- ___ Dispose of animal mortalities to prevent discharge of pollutants to surface water and cannot be managed in the liquid manure or process wastewater collection systems (unless specifically designed to treat mortalities).
- ___ Divert clean water from the production area.
- ___ Prevent direct contact of confined animals with waters of the United States.
- ___ Ensure that chemicals and other contaminants handled onsite are not disposed of in any manure, litter, process wastewater, or storm water storage/treatment system.

Land Application

- ___ Identify appropriate site-specific conservation practices to be implemented, including buffers to control runoff.

___ For large CAFOs: Maintain a setback area at least 100 feet from any down-gradient surface waters, open tile intake structures, sinkholes, agricultural well heads, or other conduits to surface waters where manure, litter, and other process wastewaters are not applied. (As a compliance alternative, a 35-foot vegetated buffer where manure, litter, or other process wastewaters are not applied. A CAFO can also demonstrate that a setback or buffer is not necessary or can be reduced).

___ Identify protocols for appropriate testing of manure, litter, process wastewater, and soil.

___ For large CAFOs: Collect and analyze manure, litter, and other process wastewaters annually for nutrient content, including N and P.

___ For large CAFOs: At least once every five years, collect and analyze representative soil samples for P content from all fields where manure, litter, and other process wastewaters are applied.

___ Establish protocols to land apply manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure appropriate agricultural use of nutrients.

___ For large CAFOs: Land apply manure, litter, and other process wastewaters in accordance with an NMP that establishes rates for each field based on the technical standards for nutrient management established by the director of the state regulating agency.

Record Keeping

- ___ Identify specific records that will be maintained to document the implementation and management of the NMP.
- ___ Maintain all records onsite for five years. These records must be made available to the permitting authority upon request.
- ___ Submit an annual report to permit authority (director of the state regulating agency or EPA Regional Office).

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Producer Checklist: Record-Keeping Requirements for Large CAFOs

Producers can use the checklist below to identify mandatory records that must be kept onsite for five years. Unchecked items represent issues that may need additional attention.

- Expected crop yields
- The date manure, litter, or process wastewater is applied to each field.
- The weather conditions at the time of application and 24 hours before and after application.
- Test methods used to sample and analyze manure, litter, or process wastewater and soil.
- Results from manure and soil sampling
- Explanation of the basis for determining manure application rates
- The calculations showing the total N and P to be applied to each field, including sources other than manure.
- Total amount of N and P actually applied to each field, including calculations.
- The method used to apply the manure.
- Dates that manure application equipment was inspected.
- Maintain for five years
- Site-specific NMP is onsite.
- When manure or process wastewater is transferred to other persons, they are provided with current nutrient analysis and the recipient information is documented in records.

Producer Checklist: Annual Report

All CAFO owners are required to submit an annual report. The report summarizes the amount of manure generated, applied, and exported from the operation. Producers can use the checklist below to identify mandatory issues that must be addressed in an annual report. Unchecked items represent issues that may need additional attention.

- Number and type of animals
- Total amount of manure produced
- Amount of manure transferred offsite
- Total acres available for land application
- Total acres used for land application
- If a certified NMP planner was used

- Summary of discharges from production area and land application area (not including agricultural storm water discharge) •

Definition of Abbreviations

AFO—Animal Feeding Operation. A lot or facility where animals are stabled or confined and maintained for a total of 45 days or more in any 12-month period, and crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

CAFO—Concentrated Animal Feeding Operation. A CAFO is an AFO that is defined (by size) as a large CAFO or as a medium CAFO or that is designated as a CAFO in accordance with 40 CFR (Code of Federal Regulations) paragraph 122.23.

CNMP—Comprehensive Nutrient Management Plan. A plan defined by USDA for minimizing nutrient excretion, ensuring proper storage of manure and manure-contaminated water, applying manure nutrients at agronomic rates, and maintaining appropriate records.

ELG—Effluent Limitation Guidelines

NMP—Nutrient Management Plan. Required for CAFOs, includes Best Management Practices (BMPs), and for large CAFOs, procedures necessary to achieve ELGs.

NPDES—National Pollutant Discharge Elimination System. Created by the Clean Water Act to authorize and regulate the discharges of pollutants to waters of the United States.

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Reviewer

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For More Information

Environmental Regulations Related Resources

EPA CAFO Phone Line–202-564-0766

<http://www.epa.gov/npdes/caforule/>–To obtain copy of regulations

<http://www.epa.gov/npdes/afo/statecontacts/>–To obtain state environmental agency contacts

<http://www.epa.gov/agriculture/animals.html/>–To obtain compliance assistance information from EPA

http://cfpub.epa.gov/npdes/contacts.cfm?program_id=7&type=REGION/–To obtain EPA Region Animal Feeding Operation contacts

Land-Grant University Resources

The local contact for your land-grant university Cooperative Extension program is listed in the phone book under “Cooperative Extension” or “(county name) County Cooperative Extension.”

<http://www.reeusda.gov/1700/statepartners/usa.htm/>–To obtain state Cooperative Extension contacts

<http://www.lpes.org/>–To view the Livestock and Poultry Environmental Stewardship (LPES) curriculum resources

USDA Farm Bill Resources

To obtain more information about the Farm Bill 2002, see the USDA-NRCS website at <http://www.nrcs.usda.gov/programs/farmbill/2002/>. You can also contact your local USDA Service Center, listed in the phone book under “U.S. Department of Agriculture,” or your local conservation district.



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