

RATIONALE

State of Tennessee General State Operating Permit (SOPCI0000) for Concentrated Animal Feeding Operations (CAFOs)

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1. Introduction

The purpose of this rationale sheet is to provide the basis for State of Tennessee permit conditions and related general permit procedures for any new or existing operations meeting the definition of a CAFO (concentrated animal feeding operation) that is required to seek permit coverage under a State Operating Permit (SOP) per the requirements of TDEC Rule 0400-40-05-.14(3).

CAFOs requiring coverage under an SOP generally require the same monitoring, recordkeeping, and best management practice (BMP) requirements. Since permit requirements for all these facilities are similar, it is the opinion of the Division of Water Resources (division) that this category of sources is controlled more appropriately under a general SOP rather than under individual SOPs. General SOPs are issued by the Division of Water Resources in accordance with the Division's Rule 0400-40-10-.01 through .03. This rationale sheet describes and gives the basis for permit conditions to be applied statewide to the operation of these CAFOs.

2. Background

Concentrated animal feeding operations (CAFOs) considered in this rationale are those that meet the definition of a Class II (medium) CAFO that manages liquid manure in open impoundments, wastewater containment structures, or in a manner that is otherwise not protected from rainfall events. No discharge is authorized under this general permit. Any CAFO that discharges must seek coverage under an individual NPDES permit. A CAFO is an AFO¹ that meets the large (Class I) CAFO size criteria of Rule 0400-40-05-.14(2), the medium (Class II) criteria of Rule 0400-40-05-.14 (3) or has otherwise been designated as a CAFO by the director of the Division of Water Resources. AFOs meeting or exceeding the size thresholds indicated in the second column in the following table are considered large (Class I) CAFOs. AFOs within the range given in the third column are considered medium (Class II) CAFOs if any of the following conditions are met:

- a. Pollutants are discharged into waters through a man-made ditch, flushing system, or other similar man-made device;
- b. Pollutants are discharged directly into waters which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation;
- c. The AFO is located adjacent to a waterbody that has been identified by the Department as being impaired for nutrients or pathogens;
- d. The AFO began operation on or after May 1, 1999; or

¹ An "Animal Feeding Operation" (AFO) is a facility that (1) stables, confines and feeds or maintains animals (other than aquatic animals) for a total of 45 days or more in any 12-month period and (2) does not sustain crops, vegetation, forage growth, or post-harvest residues in the normal growing season over any portion of the facility. Two or more AFOs under common ownership are considered to be a single AFO for the purposes of determining the number of animals at an operation, if they adjoin each other or if they use a common area or system for the disposal of wastes.

- e. The AFO expanded its operation so that it falls within the range given in the third column of table 0400-40-05-14.1 on or after July 21, 2004.

Note: Operations that discharge must seek coverage under an individual NPDES permit.

The table below summarizes the size thresholds for Class I and Class II CAFOs.

Animal Type	Class I (Large CAFO)	Class II (Medium CAFO)
Dairy Cows	700+	200 – 699
Veal Calves	1,000+	300 – 999
Cattle	1,000+	300 – 999
Swine	2,500+ (\geq 55 lbs) 10,000+ (\leq 55 lbs)	750 – 2,499 (\geq 55 lbs) 3,000 – 9,999 (\leq 55 lbs)
Chickens (liquid)	30,000+	9,000 – 29,999
Chickens (dry)	125,000+ (non-layers) 82,000+ (layers)	37,500 – 124,999 (non-layers) 25,000 – 81,999 (layers)
Horses	500+	150 – 499
Sheep/lambs	10,000+	3,000 – 9,999
Turkeys	55,000+	16,500 – 54,999
Ducks	5,000+ (liquid waste management) 30,000+ (dry waste management)	1,500 – 4,999 (liquid waste management) 10,000 – 29,999 (dry waste management)

3. Description of Activity

3.1. Operations eligible for coverage

Medium sized operations that manage liquid manure in open impoundments, wastewater containment structures, or in a manner that is otherwise not protected from rainfall events, are eligible for coverage under this general permit. No discharge is authorized under this general permit. Any CAFO that discharges must seek coverage under an individual NPDES permit.

3.2. Water quality issues

The primary issue of water quality concern at a CAFO is the volume of waste generated and the potential for that waste or wastewater to be released into waters of the state. The pollutants of concern are primarily nutrients (i.e., phosphorus and nitrogen) and pathogens.

Other water quality concerns for CAFOs include the use/disposal of the manure, litter, and process wastewater and proper management/disposal of mortalities (i.e., dead animals). Manure, litter, and process wastewater is routinely used as fertilizer for agricultural crops both on the CAFO owner/operator's own property and by third parties who obtain the animal waste from the CAFO owner/operator. Use of animal waste as fertilizer is a beneficial use of this waste source, but care must be taken to ensure that the waste is properly applied and managed so that it doesn't cause pollution of waters of the state. Another notable concern from the operation of a CAFO is the proper management/disposal of mortalities. Mortalities that are not properly managed or disposed of can not only cause pollution to waters of the state, but can also be a source of odor resulting from improper mortality handling and can be a vector for the transport of disease or other pathogens.

4. Permit Conditions

The following is a brief summary of the major requirements of this permit.

4.1. Notice of Intent

Operators wishing to obtain coverage under this permit must submit a completed notice of intent (NOI) using the form provided in Appendix A of the draft permit. The division will review the NOI for completeness and accuracy and, when necessary, investigate the proposed operation for potential impacts to waters of the state. NOIs shall be submitted not more than 90 days following the effective date of the permit for existing operations. New operations

must seek to obtain coverage at least 180 days prior to the time that they plan to commence operation. The NOI must be submitted to the Tennessee Department of Agriculture.

4.2. Nutrient Management Plan

All permittees under this state operating permit must develop, submit for state approval, implement and keep on site a site-specific nutrient management plan (NMP). The appropriate plan must be submitted to the division along with the NOI. NMPs typically address such issues as manure and wastewater handling and storage, nutrient management, land treatment practices, record keeping, and other manure and wastewater utilization options.

4.3. Special Conditions

The following special conditions were included in the permit.

- a. **Best Management Practices** – The permit includes best management practices (BMPs) that are required for all CAFOs covered under the permit. The BMPs include conditions on how the CAFO shall be operated to ensure that toxic materials are not introduced into the animal waste and thus applied to agricultural fields when the animal waste is land applied and also conditions for discharge or spill response and reporting.
- b. **BMPs for the Land Application of Animal Waste** – In addition, the permit contains additional BMPs for operations that land apply animal waste. These BMPs require the incorporation of field-specific assessments of the potential for nitrogen and phosphorus transport from the field. Proper incorporation of these BMPs will help CAFO operators maximize the use of animal waste for its nutrient content and will help minimize pollution to streams receiving storm water runoff from waste application sites.
- c. **Liquid Waste Management System Requirements** – The permit contains several requirements pertaining to liquid waste management systems and specifies design standards to help prevent pollution introduced from a liquid waste management system.
- d. **Transfer to Third Party** – All large CAFOs, as well as operations that transfer more than 100 tons of manure, litter or process wastewater per year to a third party for disposal; must ensure that the third party signs an agreement which includes best management practices for the land application of the manure, litter or process wastewater. All CAFOs must also provide the third party recipient with the most current nutrient analysis. This requirement will let waste recipients know the nutrient content of the waste and will help them determine proper application rates to prevent the over application of this fertilizer source to the receiving crop land.
- e. **Closure Plan** – A closure plan, addressing how animal barns and waste systems will be shut down if a CAFO discontinues operations, is required by the permit to help ensure that the potential pollutants left from the discontinuation of an operation do not adversely impact the surrounding environment and adjacent waterbodies.
- f. **Mortality Management** – The permittee must ensure proper management of mortalities (i.e. dead animals) so that they are not disposed of in a liquid manure, stormwater, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities. This requirement is important to help ensure that mortalities are not able to cause pollution to receiving waters or provide a transport mechanism for disease and other pathogens.

4.4. Record Keeping

The permit requires applicable records and information to be kept on site for a minimum of five years.

4.5. Annual Report

This permit requires an annual report (requirement details in the permit), to be submitted to the division.

5. **General Permit Issuance Procedures**

This general permit is drafted in accordance with the Tennessee Water Quality Control Act (§ 69-3-101 et seq.), and the department's permit issuance regulations (Rules of the department 0400-40-05-.05 and 0400-40-10.01 through .03).

6. Updates and Changes

The language regarding discharges has been revised so that no discharges are authorized under this general permit. Any CAFO that discharges must seek coverage under an individual NPDES permit.

The permit language has been reworded to be more specific about the types of operations that are eligible for coverage under this general permit. The general permit name has also been changed from SOPCD0000 to SOPCI0000.

The monitoring parameters in the event of a discharge have been updated to be the same as all other CAFO permits issued by the division. This included pH being removed as a parameter. pH readings would have required a CAFO operator to maintain a pH meter onsite.

For additional information, or to submit comments, contact:

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