



Guide to Animal Feeding Operations

Laws passed by the General Assembly to protect water quality in Missouri designated the Missouri Department of Natural Resources as responsible for establishing rules, policies and guidelines. By establishing and enforcing standards and properly managing animal waste, we can protect our valuable water resources. Preventing contamination is the key to protecting water quality for all Missouri citizens. The following requirements regulate concentrated animal feeding operations. When an operation meets all state requirements the department is required to issue a permit to such operation.

Rules and Laws

Requirements for Class I concentrated animal feeding operations are contained in state legislation, HB1207, under Section 261.105 and 640.700-640.755 of RSMo, supp, 1996. This law became effective June 25, 1996. Rules were issued March 31, 1999 and revised Jan. 29, 2009 and April 30, 2012 under 10 CSR 20-6.300.

Table 1. 1 Animal Unit Equals -

	1.0	Beef cow, feeder, veal calf, cow/calf pair and dairy heifer
	0.5	Horses
	0.7	Mature Dairy cows
	2.5	Swine weighing over 55 pounds
	10	Swine weighing under 55 pounds
	10	Sheep, lambs, and meat and dairy goats
	30	Chicken laying hens, pullets and broilers with a wet handling system
	55	Turkeys in growout phase
	82	Chicken laying hens without a wet handling system
	125	Chicken broilers and pullets, and turkey poults in brood phase, all without a wet handling system

Animal Class Category		Class IA	Class IB	Class IC	Class II
Animal unit equivalent		7,000	3,000 to 6,999	1,000 to 2,999	300 to 999
	Beef cow, feeder, veal calf, cow/calf pair and dairy heifer	7,000	3,000 to 6,999	1,000 to 2,999	300 to 999
	Horses	3,500	1,500 to 3,499	500 to 1,499	150 to 499
	Mature Dairy cows	4,900	2,100 to 4,899	700 to 2,099	210 to 699
	Swine weighing over 55 lbs.	17,500	7,500 to 17,499	2,500 to 7,499	750 to 2,499
	Swine weighing under 55 lbs.	70,000	30,000 to 69,999	10,000 to 29,999	3,000 to 9,999
	Sheep, lambs, and meat and dairy goats	70,000	30,000 to 69,999	10,000 to 29,999	3,000 to 9,999
	Chicken laying hens, pullets and broilers with a wet handling system	210,000	90,000 to 209,999	30,000 to 89,999	9,000 to 29,999
	Turkeys in growout phase	385,000	165,000 to 384,999	55,000 to 164,999	16,500 to 54,999
	Chicken laying hens without a wet handling system	574,000	246,000 to 573,999	82,000 to 245,999	24,500 to 81,999
	Chicken broilers and pullets, and turkey poults in brood phase, all without a wet handling system	875,000	375,000 to 874,999	125,000 to 374,999	37,500 to 124,999

Construction and operating permits are required for Class I CAFO animal confinement areas and waste management features. Permits are also required for any Class II CAFO that will discharge through a man-made conveyance. Prior to construction, both the construction permit and the land disturbance permit must be obtained. The operating permit must be obtained prior to placing animals in the confinement areas. Proposed permit actions are required to follow the public participation procedures outlined in 10 CSR 20-6.300.

Design and engineering requirements are located in 10 CSR 20- 8.300. Rules are available on the Missouri Secretary of State website at www.sos.mo.gov/adrules/csr/current/10CSR/10csr.asp. Additional information about CAFOs is available at www.dnr.mo.gov/env/wpp/cafo/index.html.

No Discharge

In Missouri, CAFOs must be designed constructed, operated and maintained as “no-discharge” facilities. This means the operation must contain all of the wastewater to be land-applied when conditions are favorable. They are not allowed to treat and release the wastewater to streams and rivers like most communities and industries.

Classification of Animal Feeding Operations

An operation is defined as a CAFO if it falls within the Class I size category and confines, stables, or feeds animals for 45 days or more in a 12 month period and a ground cover of vegetation is not sustained over at least 50 percent of the confinement area. All Class I operations must obtain a permit. Class II operations can voluntarily obtain a permit.

An AFO or CAFO’s class size is based on the operating level in animal units of an individual animal type at one operating location. After a CAFO becomes a Class I operation, the animal units of all confined animals at the operating location are summed to determine whether the operation is Class IA, IB, or IC. Operations that are smaller than the Class II category are considered unclassified. Class II and smaller operations are not required to have a permit unless the department designates an operation as a CAFO for reasons such as to correct noncompliance, (i.e. unauthorized discharge). Table 1 shows the classifications and animal number thresholds for each. As of July 2012, there were approximately 20 Class IA, 40 Class IB and 420 Class IC CAFOs operating in Missouri. Approximately 35 Class II facilities have permits.

Buffer Distances and Neighbor Notification

There are minimum buffer distances required between the nearest confinement building or waste holding basin and any public building or occupied residence (see Table 2). The distances are determined by the number of animal units that will occupy the operation. The owner or operator is required to give notice to the adjoining property owners located within 1.5 times the listed buffer distance, the county governing body and the Department of Natural Resources when planning construction of a new or expanding an existing Class I CAFO.

Interested parties have at least 30 days in which to submit comments to the department. The 30 days begins either the date the neighbor notification was sent or the date the department receives the permit application, whichever date is later. Comments should be addressed to the Agriculture Unit Chief. The department reviews all comments, however, it can only consider water quality issues within the jurisdiction of the Clean Water Commission. The department will respond in writing to these comments after a permit decision has been made.

Table 2. Permit Requirements and Buffer Distances

<p>Class I Permits are required for all Class I Concentrated Animal Feeding Operations. Class IA - 3,000 feet buffer distance - Class IA operations must obtain a site specific permit. Class IB - 2,000 feet buffer distance - Class IB operations must obtain a general permit. * Class IC - 1,000 feet buffer distance - Class IC operations must obtain a general permit. *</p> <p>Class II and Unclassified - Buffer distance is not required.</p> <p>*Site-specific permit may be required on case-by-case basis.</p>
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Odors from CAFOs

Many factors affect the level of odors coming from a CAFO including size, animal type, waste storage type, prevailing winds, topography as well as other operational and environmental factors. In addition, Class IA CAFOs are required to prepare and implement an odor control plan as described by the Air Pollution Control Program under its odor emission regulations. The odor control plan requires a detailed analysis of a Class IA CAFOs odor sources and a corresponding plan to reduce odor emissions. All other sizes of CAFOs are exempt from these regulations.

Air Pollution Control Program odor emission regulations require facilities to restrict their odor emissions such that they cannot be perceived above a defined level after it leaves the facilities property. Failure to comply with the odor standard can result in a violation and penalty. The odor emission level for Missouri is defined as follows:

No person may cause, permit, or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a site not at the installation.

Nutrient Management Plans

All CAFOs must maintain a current Nutrient Management Plan, or NMP. The plan must be field specific. The plan must address the following minimum criteria:

1. Ensure adequate storage of manure, litter and process wastewater.
2. Incorporate procedures for proper operation and maintenance of the storage facilities.
3. Ensure proper mortality management.
4. Ensure clean water is diverted from the production area.
5. Prevent direct contact of confined animals with waters of the state.
6. Ensure chemicals and other contaminants are disposed of properly.
7. Identify site specific conservation practices to be implemented.
8. Identify protocols for testing of manure, litter, process wastewater, mortality byproducts and soil. (Wastewater sources must be tested annually and soils every five years.)
9. Ensure agricultural use of the nutrients in the manure, litter, or process wastewater. (NMPs must include a field-specific assessment of the potential for nitrogen and phosphorus loss from the field to surface waters.)
10. Ensure appropriate record-keeping.

In addition, the nutrient management plan must conform to the requirements of the Missouri Concentrated Animal Feeding Operation Nutrient Management Technical Standard, or NMTS. This document is available on the Web at www.dnr.mo.gov/env/wpp/cafo/index.html or by contacting the Water Protection Program.

Best Management Practices

Animal waste is applied as a plant nutrient and should always be managed so runoff does not occur. Best Management Practices, or BMPs, help to ensure this. The BMPs required by the permits are based on design requirements under 10 CSR 20-8.300 and the NMTS.

These BMPs require setbacks from the land application site and other features including streams, dwellings, public use areas, wells, springs and property lines. There are limitations to the rate of application, land slope of soil plant filter fields and soil conditions at the time of application. The runoff of wastewater during land application is not allowed. If runoff occurs, it is considered an unauthorized discharge and is a violation of the permit.

The land application separation distances are:

- 300 feet from losing streams, sinkholes, caves, wells, abandoned wells, water supply structures or impoundments and any other connection between surface and groundwater.
- 100** feet from permanent flowing streams.
- 100** feet from intermittent flowing streams.
- 50 feet from property lines.
- 100 feet from a privately owned impoundment not used as a water supply.
- 150 feet from dwellings or public use areas if applied with spray irrigation systems.
- 50 feet for application by tank wagon or solid spreader from dwellings or public use areas.

** The CAFO may substitute a 35-foot wide permanent vegetative buffer as an alternative to the 100-foot setback.

Other Permit Requirements for Concentrated Animal Feeding Operations

In addition to a construction and operating permit, a CAFO will need a land disturbance permit for storm water discharges from the construction sites of animal feeding operations if the area to be disturbed will total one acre or more. This permit must be obtained prior to any land clearing or grading. The land disturbance permit requires installation of best management practices to limit soil erosion and sediment movement during construction activities.

Additionally, an operation may need a Section 404, Clean Water Act, permit from the U.S. Army Corps of Engineers if it is filling or discharging material into waters of the United States, such as building a dam to impound water. The deposit of fill material in wetlands is also regulated and requires a permit under Section 404.

Special Requirements for Class IA Operations

The largest CAFO operations have special requirements including site-specific permits, critical watershed requirements, and additional monitoring, inspection and reporting. Specific Class IA requirements is available at 10 CSR 20-6.300(3)(H).

Floodplain

Animal waste storage structures must be located above the 100-year flood level. The U.S. Army Corps of Engineers, U.S. Department of Agriculture, Natural Resource Conservation Service and the Federal Emergency Management Agency can supply data about 100-year flood levels.

Areas with flood frequencies greater than once in 10 years should not be the only land available for land application of animal waste. Additionally, the bottom of the storage structure must be located at least 4-feet above the water table.

Location

Although the department determines a proposed site meets the requirements for buffer distances, setback distances, geologic conditions for storage structure, flood plain location and distance from surface waters, the department does not have the authority to determine the appropriate site placement or mandate a site move to a new location. The department does not have zoning authority nor does the department participate in or enforce local zoning requirements.

Department Oversight of CAFOs

The Missouri Department of Natural Resources is responsible for the oversight of CAFOs from an environmental stand point. The department conducts regular unscheduled inspections of permitted operations in accordance with Missouri law. In addition, any complaints received by the department are investigated. The department also reviews annual reports submitted by the operations, which are required by the permits.

Reporting Problems at CAFOs

Environmental problems at CAFOs can be reported to the local Department of Natural Resources Regional Office, or in the case of an emergency, by calling the Environmental Emergency Response at 573-634-2436.

Public Hearings

For any permit application, the public can request a public hearing. The department shall hold a public hearing if there is significant technical merit and concern related to the responsibilities of the Missouri Clean Water Law.

Public Access to Department Files

Department files are available to the public for review under the Missouri Sunshine Law, Chapter 610, Revised Statutes of Missouri. These records are available from 8 a.m. to 5 p.m., Monday through Friday at 1101 Riverside Drive in Jefferson City, or copies can be sent for a fee. To request file information or make an appointment to review the files for a CAFO, contact the Water Protection Program at 573-751-1300 and ask to speak to the Custodian of Records.

Permit Appeal Process

Any aggrieved party may appeal the department's permit decisions. Appeals must be filed with the Administrative Hearing Commission, or AHC, within 30 days of the permit issuance. Appeals must be sent to the Administrative Hearing Commission at P.O. Box 1557, Jefferson City, MO 65102 or by fax to 573-751-5018. For more questions about how to appeal a permit, contact the Administrative Hearing Commission at 573-751-2422. This commission contracts with the department to assist in the department's decision-making processes. The AHC may conduct proceedings including a trial-type hearing to make a recommended decision to the Clean Water Commission. The Clean Water Commission makes the final decision. An appeal is a legal process, and the appellant seeks to prove to the AHC that a permit was issued unlawfully.

For more information

Engineering or Permit Questions

Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176
800-361-4827 or 573-751-1300 office
573-526-1146 fax
waterag@dnr.mo.gov
www.dnr.mo.gov/env/wpp/index.html

Odor Regulations

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102
573-751-4817 or 800-361-4827
www.dnr.mo.gov/env/apcp/index.html

Well Drilling Questions

Missouri Department of Natural Resources
Water Protection Program, Wellhead Protection Section
P.O. Box 250
Rolla, MO 65402
573-368-2165
www.dnr.mo.gov/env/wpp/wellhd/index.html