



Public Health Law

Office for State, Tribal, Local and Territorial Support
Centers for Disease Control and Prevention

Menu of State Laws Regarding Odors Produced by Concentrated Animal Feeding Operations

About Environmental Odors and Concentrated Animal Feeding Operations

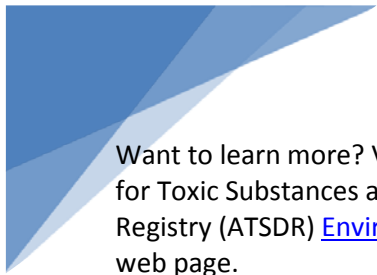
Over the last several decades, the United States has seen a significant increase in large-scale animal farming.¹ These large facilities are classified as either animal feeding operations (AFOs) or concentrated animal feeding operations (CAFOs), depending on the number of animals housed. Federal law defines AFOs as facilities where animals are “stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period.”² Furthermore, an AFO is a facility in which “crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.”³ If a facility holds a certain number of animals, it may be further classified as a medium or large CAFO.⁴

All CAFOs are inherently AFOs, but not all AFOs are considered CAFOs. Both types of facilities have prompted concerns by community members and health officials⁵ of “adverse impacts” on “socioeconomic conditions, community social fabric, and environmental conditions.”⁶ One concern surrounds the effects of environmental odors, which are odors that come from “human activities, animals, nature, vehicles, and industry.”⁷

With the rise of these nontraditional farming facilities, the legal landscape has shifted as some jurisdictions have sought to address livestock-related issues, including odors. Some states have enacted laws regulating odors produced by and related to AFOs and CAFOs.⁸ The scope of laws included in this legal research, however, only extends to laws that expressly apply to CAFOs and address the odors they produce.⁹

Federal Regulations for CAFOs

Although federal law regulates CAFOs as potential sources of pollution, no federal regulations specifically



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To learn more about ways to reduce and eliminate odors, visit the ATSDR [Odor Control web page](#).

For information about individual chemicals and the odors they produce, visit the ATSDR [Odor Database](#).



address odors. The Environmental Protection Agency (EPA) oversees the administration of the National Pollutant Discharge Elimination System (NPDES) permit system.¹⁰ CAFOs are considered “point sources” and are therefore “subject to NPDES permitting requirements.”¹¹ While the EPA may regulate the permitting system directly, the majority of states administer their own NPDES programs after receiving approval by the federal government.¹²

State Regulations for CAFOs and Related Odors

In addition to the federal regulations outlined above, states may place additional obligations on CAFOs. This menu examines state laws on the environmental odors produced by CAFOs.¹³ Nine states have enacted laws that specifically address odors created by CAFOs.¹⁴ Those laws address odor plans, measures, permits, location requirements, nuisance actions, and other protocols.

Odor Management Plans and Measures

Seven states require CAFOs to submit an odor management, abatement, or control plan.¹⁵

- In **Missouri**, only CAFOs housing more than 7,000 animal units¹⁶ are required to submit odor management plans.¹⁷ The plan must list “all sources of odor emissions and [a] description of how odors are currently being controlled,”¹⁸ “all potentially innovative and proven odor control options for reducing odor emissions,”¹⁹ and a “detailed discussion of feasible odor control options for odor emissions.” Furthermore, the plan must provide a “ranking of feasible odor control options,” an “evaluation of the most effective odor control options,” a “description of the odor control options to be implemented,” an implementation schedule, and an “odor monitoring plan.” The entire plan must be approved by the state’s Department of Natural Resources’ Air Pollution Control Program.²⁰
- **Nebraska** law requires applicants to include a “plan describing best management practices to minimize odors from the animal feeding operation, the facility, and the disposal of livestock waste.”²¹ The plan must propose “methods and scheduling procedures to minimize odors during application.”²²
- Per **Oklahoma** law, a swine CAFO must include an odor abatement plan in its pollution prevention plan, a component of the CAFO license application.²³ Furthermore, CAFO operators, no matter the type of livestock housed there, must develop a carcass disposal plan to “decrease the possibility of the spread of disease, reduce odors, and preclude contamination of ground and surface waters of the state.”²⁴
- In **Pennsylvania**, CAFOs are required²⁵ to have odor management plans developed “in accordance with the requirements of the odor management regulations” and certified by “odor management specialists.”²⁶ To be “fully implemented,” the “the Odor BMPs [Best Management Practices] in the plan” must be carried out “in compliance with the schedule of Odor BMPs.”²⁷ The odor management plan is then “submitted to the [State Conservation] commission for review or approval” and may be sent “to the appropriate local conservation district for review and approval.”²⁸

Nutrient Management Plans

Per federal regulations, all NPDES permits must include a nutrient management plan (NMP).²⁹ Although the template and requirements of the federal NMP do not address CAFO-related odors, two states require CAFOs to consider odors in their NMPs in the NPDES state permit applications.³⁰

- Poultry CAFOs in **Idaho** must submit nutrient management plans “address[ing] odors generated in excess of odors normally associated with raising poultry.”³¹ The plans must be approved by the director of the Idaho State Department of Agriculture.³²
- CAFOs in **North Dakota** are required³³ to submit nutrient management plans outlining the “precautions that will be taken” to “minimize odors to residences and public areas where people

are present during transport and land application of manure.”³⁴ Authority to approve the plan lies with the state department of health.³⁵

Waste Management Plans

Two states require CAFOs to consider odor prevention in compulsory waste management plans.³⁶

- **Oklahoma** law requires each CAFO to complete a “site-specific Animal Waste Management Plan.”³⁷ In addition to outlining the animal waste removal procedures,³⁸ the waste management plan must detail how “land application practices shall be managed so as to reduce or minimize . . . odors.”³⁹
- In **Alabama**, CAFOs’ animal waste management systems must conform to a plan that “meets or exceeds the (Natural Resources Conservation Service)⁴⁰ technical standards and guidance”⁴¹ and “address[es] . . . minimization of odors to the maximum extent practicable.”⁴²

Air Quality Permits

One state imposes air quality permit requirements on CAFOs.⁴³

- **Texas** law requires CAFOs to obtain “air quality authorization” and applies all “air standard permit requirements” to “all portions” of the facility, “including permanent odor sources.”⁴⁴

Pollution Prevention Plans

Two states require CAFOs to address odors in their mandatory pollution prevention plans.

- In **Oklahoma**, CAFO operators must submit a pollution prevention plan including an “Odor Abatement Plan.”⁴⁵
- **Texas** law requires CAFO operators to address “management practices to . . . minimize odors” regarding “carcass disposal” in pollution prevention plans.⁴⁶

Violations of Odor-Related Permits and Plans

Two states impose penalties on CAFOs that fail to meet or abide by odor-related regulations.

- **Missouri** allows monetary penalties to be imposed on CAFOs if discharged contaminated water “causes a public nuisance” such as “odor.”⁴⁷ Based on a point system, the scheme allows for the size of the CAFO and the severity of the violation to be taken into account.
- **Oklahoma** authorizes penalties ranging from \$1,000 to over \$10,000 for violating the Oklahoma Concentrated Animal Feeding Operations Act, which includes “failure of a licensed managed feeding operation to develop, revise, or adhere to an Odor Abatement Plan.”⁴⁸

Nuisance Law

One state makes specific reference to potential nuisance actions regarding CAFO-related odors.⁴⁹ **Alabama** law provides a procedure for residents of Jackson County to lodge a complaint about odors produced by swine CAFOs.

- Per Alabama law, any resident of the county can submit a “written complaint” to the “county commission,” which is followed by a “public hearing on the complaint.” The county may then “order the abatement of a public nuisance in the county related to noxious odors . . . arising from swine farming.”⁵⁰ Should the county commission “[find] sufficient evidence of the existence of a public nuisance,” it “may order the offending person or party to immediately cease the operation or activity constituting a public nuisance to abate the nuisance.”⁵¹

Location Requirements

Particular placement or location requirements of a CAFO facility, including setbacks, may abate CAFO-related odors. Two states address the locations of CAFOs in consideration of odors.

- **Alabama** law provides concrete terms for setbacks,⁵² which it characterizes as “buffer requirements” meant, in part, to “minimize odor to the maximum extent practicable.”⁵³ In addition, the law allows the Department of the Environment to require additional buffer distances on “an individual facility basis.”⁵⁴
- **Oregon** law stipulates that “new confined animal feeding operations should not be located where prevailing winds are likely to carry odors into residential or recreational areas.”⁵⁵

Other Protocols

Two states require CAFO operators to follow particular protocols regarding CAFO-related odors to mitigate potential impacts.⁵⁶

- For example, CAFO operators in **Texas** must remove sludge from retention control structures “during favorable wind conditions that carry odors away from nearby receptors.”⁵⁷
- **Missouri** law provides specific requirements for construction of basins.⁵⁸ Specifically, all manure storage basins must “be prefilled in order to protect the liner, prevent weed growth, reduce odor, allow measurement of percolation losses, and maintain moisture content of the seal.”⁵⁹

Conclusion

State laws use various mechanisms to help reduce CAFO-related odors. Some states require CAFO facilities to submit odor- or pollution-control plans for approval, and others stipulate certain construction requirements, such as setback distances. In addition, there are a wide range of other laws that regulate CAFOs but do not directly address odor management; such laws might help minimize the creation of odors or affect how CAFOs manage odors. Additional information on legal approaches to environmental odors may be found in the accompanying [PHLP Research Anthology](#).

Acknowledgments and Disclaimers

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For further technical assistance with this inventory, please contact PHLP at phlawprogram@cdc.gov. PHLP provides technical assistance and public health law resources to advance the use of law as a public health tool. PHLP cannot provide legal advice on any issue and cannot represent any individual or entity in any matter. PHLP recommends seeking the advice of an attorney or other qualified professional with questions regarding the application of law to a specific circumstance. The findings and conclusions in this summary are those of the author and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

This menu includes CAFO laws available on WestlawNext as of April 7, 2015.

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Appendix: Table on State Concentrated Animal Feeding Operations Laws Related to Odors

State	Citations	Plan or Permit Type					Location Requirements	Nuisance Law	Other Protocols
		Odor Management Plans	Waste Management Plans	Nutrition Management Plans	Pollution Prevention Plans	Air Quality Permit			
Alabama	ALA. ADMIN. CODE r. 335-6-7-.20(2), (8), (19), (25); ALA. CODE § 45-36-171	X	X				X ⁶⁰	X	
Idaho	IDAHO ADMIN. CODE r. 02.04.32.250			X ⁶¹					
Missouri	MO. CODE REGS. ANN. tit. 10, § 10-6.165(3)(A); MO. CODE REGS. ANN. tit. 10, § 20-8.300; MO. CODE REGS. ANN. tit. 10, § 10-6.165(3)(A); MO. CODE REGS. ANN. tit. 10, § 20-3.010	X ⁶²				X			X
Nebraska	130 NEB. ADMIN. CODE § 4-001.009	X							
North Dakota	N.D. ADMIN. CODE 33-16-03.1-08			X					
Oklahoma	OKLA. ADMIN. CODE § 35:17-3-11(a), OKLA. ADMIN. CODE § 35:17-4-13(a), OKLA. STAT. ANN. tit. 2, § 20-48(C)(4)(b)(3); OKLA. ADMIN. CODE § 35:3-1-30(b)(12)	X	X		X	X			
Oregon	OR. ADMIN. R. 340-051-0075	X					X		
Pennsylvania	3 PA. CONS. STAT. ANN. § 502(5), 3 PA. CONS. STAT. ANN. § 509(a)(1)(i), 3 PA. CONS. STAT. ANN. § 509(b), 3 PA. CONS. STAT. ANN. § 509(c), 25 PA. CODE § 83.702(1), 25 PA. CODE § 83.741(b)(1)	X							
Texas	30 TEX. ADMIN. CODE § 321.39(c)(2), 30 TEX. ADMIN. CODE § 321.46(b)(9), 30 TEX. ADMIN. CODE § 321.43(a), (b), 30 TEX. ADMIN. CODE § 321.43(j)(2)(F), 30 TEX. ADMIN. CODE § 321.39(g)(3)	X			X	X			X

¹ Carrie Hribar, NAT'L ASS'N OF LOCAL BODS. OF HEALTH, [Understanding Concentrated Animal Feeding Operations and Their Impact on Communities](#) 1 (Mark Schultz ed., 2010).

² 40 C.F.R. § 122.23(b)(1)(i).

³ *Id.* § 122.23(b)(1)(ii).

⁴ *Id.* § 122.23(b)(2), explaining a CAFO may be considered a "Large CAFO or as a Medium CAFO." To be considered a Large CAFO, the facility must house (i) 700 mature dairy cows, whether milked or dry; (ii) 1,000 veal calves; (iii) 1,000 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 2,500 swine each weighing 55 pounds or more; (v) 10,000 swine each weighing less than 55 pounds; (vi) 500 horses; (vii) 10,000 sheep or lambs; (viii) 55,000 turkeys; (ix) 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system; (x) 125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 82,000 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 30,000 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 5,000 ducks (if the AFO uses a liquid manure handling system). 40 C.F.R. § 122.23

⁵ Hribar (explaining how "community members and public health officials often resort to taking legal action against these industrial animal farms" because of the "potential environmental and public health effects from CAFOs").

⁶ Linda Lobao and Curtis W. Stofferahn, *The Community Effects of Industrialized Farming: Social Science Research and Challenges to Corporate Farming Laws*, 25 AGRIC. & HUM. VALUES 219, 219 (2008).

⁷ AGENCY OF TOXIC SUBSTANCES AND DISEASE REGISTRY, [Environmental Odors](#), last visited Nov. 20, 2015.

⁸ *E.g.*, ALA. ADMIN. CODE r. 335-6-7-.14(10) (requiring "additional/revised effective management practices [to] be implemented as necessary by the AFO owner/operator that are sufficient to protect water quality and minimize the generation of odors to the maximum extent practicable."). *See also* N.D. ADMIN. CODE 33-16-03.1-07(5)(b) (stating "the [North Dakota state department of health] may impose any conditions upon a state animal feeding operation permit to ensure proper operation of the facility to protect water and air quality, including . . . [s]teps to prevent the facility from causing exceedances of water quality standards or air quality standards and to minimize odors during land application of manure.").

⁹ For example, laws such as 401 KY. ADMIN. REGS 47:005(118), 401 KY. ADMIN. REGS. 49:005(118) (defining CAFOs as a "point source" but failing to tie CAFO point sources to odor regulations) were not within the scope of this assessment. Furthermore, several states use terms other than CAFOs to describe large farming facilities. *See, e.g.*, VT. STAT. ANN. tit. 6, § 4851 (setting permit standards for "large farming operations") and OKLA. STAT. ANN. tit. 2, § 20-12(J) (regarding structures for "licensed managed feeding operations").

¹⁰ 40 C.F.R. § 122.1(a)(1), identifying the authority of the EPA to oversee "the National Pollutant Discharge Elimination System (NPDES) Program under sections 318, 402, and 405 of the Clean Water Act (CWA) (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.)." For further reading, see [Water Permitting 101](#).

¹¹ 40 C.F.R. § 122.23(a).

¹² Claudia Copeland, Cong. Research Serv., RL31851, [Animal Waste and Water Quality: EPA Regulation of Concentrated Animal Feeding Operations \(CAFOs\)](#) (2010), 6 (in 2010, "45 states [were] authorized by EPA to administer this permit program (Oklahoma has been authorized to issue permits for most sources but not for CAFOs)").

¹³ CDC's Public Health Law Program (PHLP) collected state provisions that referenced CAFO odor laws on April 7, 2015, using WestlawNext, a legal research database. Some states have laws regulating odors produced by and related to AFOs. By default, some of such laws apply to CAFOs. However, this menu addresses only laws explicitly related to CAFOs and the odors they produce. Laws such as 401 KY. ADMIN. REGS. 47:005(118), 401 KY. ADMIN. REGS. 49:005(118) (defining CAFOs as a "point source" but failing to tie CAFO point sources to odor regulations) were not within the scope of this assessment. Furthermore, several states use terms other than CAFOs to describe large farming facilities. *See e.g.*, VT. STAT. ANN. tit. 6, § 4851 (setting permit standards for "large farming operations") and OKLA. STAT. ANN. tit. 2, § 20-12(J) (regarding structures for "licensed managed feeding operations").

¹⁴ Alabama, Idaho, Missouri, Nebraska, North Dakota, Oklahoma, Oregon, Pennsylvania, and Texas.

¹⁵ Alabama, Missouri, Nebraska, Oklahoma, Oregon, Pennsylvania, and Texas. Other states allow counties to require odor management plans on their own accord. For example, Idaho law states that counties "may require an applicant for siting of a CAFO to submit an odor management plan as part of their application." IDAHO CODE ANN. § 67-6529D(1).

¹⁶ MO. CODE REGS ANN. tit. 10, § 10-6.020 (C)(18), defining Class IA CAFOs as "any concentrated animal feeding operation with a capacity of seven thousand (7,000) animal units or more and corresponding" to a table listing various numbers of animals."

¹⁷ MO. CODE REGS ANN. tit. 10, § 10-6.165(3), setting standards for the odor management plan so that no “odor can be perceived when one (1) volume of odorous air is diluted with seven (7) volumes of odor-free air for two (2) separate trials not less than fifteen (15) minutes apart within the period of one (1) hour. This odor evaluation shall be taken at a location outside of the installation's property boundary.”

¹⁸ *Id.* § 10-6.165(3)(A)(1)(A).

¹⁹ *Id.* § 10-6.165(3)(A)(1)(B).

²⁰ *Id.* § 10-6.165(3)(A)(2).

²¹ 130 NEB. ADMIN. CODE § 4-001.009.

²² *Id.* § 4-001.009D.

²³ OKLA. ADMIN. CODE § 35:17-3-11(a).

²⁴ *Id.* § 35:17-4-13.

²⁵ 3 PA. CONS. STAT. ANN. § 509(a)(1)(i); 3 PA. CONS. STAT. ANN. § 502(5); 25 PA. CODE § 83.741(b)(1)(i).

²⁶ 3 PA. CONS. STAT. ANN. § 509(b).

²⁷ 25 PA. CODE § 83.741(f)(2).

²⁸ 3 PA. CONS. STAT. ANN. § 509(c); *see also generally* 25 PA. CODE § 83.741.

²⁹ 40 C.F.R. § 122.23(h).

³⁰ Idaho, North Dakota.

³¹ IDAHO ADMIN. CODE r. 02.04.32.250.

³² *Id.* 02.04.32.010(6).

³³ N.D. ADMIN. CODE 33-16-03.1-08(4)(a).

³⁴ *Id.* 33-16-03.1-08(3)(c)(2).

³⁵ *Id.* 33-16-03.1-08.

³⁶ Oklahoma, Alabama. *But see also* 401 KY. ADMIN. REGS. 5.005 (assigning permit requirements specifically to “agricultural waste handling system[s] that conveys, stores, or treats manure from a concentrated animal feeding operation.”).

³⁷ OKLA. STAT. ANN. tit. 2, § 20-48(B).

³⁸ *Id.* § 20-48(C)(1).

³⁹ *Id.* § 20-48(C)(4)(b)(3).

⁴⁰ ALA. ADMIN. CODE r. 335-6-7-.02(gg) (an agency within the US Department of Agriculture).

⁴¹ *Id.* 335-6-7-.20(2); ALA. ADMIN. CODE r. 335-6-7-.20(19).

⁴² ALA. ADMIN. CODE r. 335-6-7-.20(19).

⁴³ Texas.

⁴⁴ 30 TEX. ADMIN. CODE § 321.43(b); TEX. ADMIN. CODE § 321.46(b)(9).

⁴⁵ OKLA. ADMIN. CODE § 35:17-3-11(a). Applicable to swine CAFOs only.

⁴⁶ 30 TEX. ADMIN. CODE § 321.39(g)(3), asserting CAFO operators must include in their management documentation “the odor control plan requirements” found in 30 TEX. ADMIN. CODE § 321.43(j)(2)(F) (calling for the plan to “identify all structural and management practices that the operator will employ to minimize odor and control air contaminants at the AFO. At a minimum, the plan shall include, where applicable, procedures for manure/litter collection, manure, litter, and wastewater storage and treatment, land application, dead animal handling, and dust control. If the executive director determines that the implementation and employment of these practices is not effective in controlling dust, odors, and other air contaminants, the operator shall include any necessary additional abatement measures in the odor control plan and implement those measures to control and reduce these contaminants within the time period specified by the executive director.”).

⁴⁷ MO. CODE REGS. ANN. tit. 10, § 20-3.010.

⁴⁸ OKLA. ADMIN. CODE § 35:3-1-30(b)(12).

⁴⁹ Alabama.

⁵⁰ ALA. CODE § 45-36-171(c)(1).

⁵¹ *Id.* § 45-36-171(c)(2).

⁵² Setbacks are defined as the “minimum amount of space required between a lot line and a building line.” Black’s Law Dictionary (10th ed. 2014).

⁵³ ALA. ADMIN. CODE r. 335-6-7-.01(4).

⁵⁴ *Id.* 335-6-7-04(6).

⁵⁵ OR. ADMIN. R. 340-051-0075(2).

⁵⁶ Texas, Missouri.

⁵⁷ 30 TEX. ADMIN. CODE §321.39(c)(2). “Sludge” is defined as “[s]olid, semi-solid, or slurry manure generated during the treatment of or storage of any manure or wastewater. The term includes material resulting from treatment, coagulation, or sedimentation of manure in a retention control structure.” 30 TEX. ADMIN. CODE § 321.32(53). A retention control structure (“RCS”) is a “basin, pond, pit, tank, conveyance, or lagoon used to hold, store, or treat manure, wastewater, and sludge. The term RCS does not include conveyance systems such as irrigation piping or ditches that are designed and maintained to convey but not store any manure, or wastewater, nor does it include cooling ponds located in the production area.” 30 TEX. ADMIN. CODE § 321.32(51).

⁵⁸ MO. CODE REGS. ANN. tit. 10, § 20-8.300(7)(H).

⁵⁹ *Id.*

⁶⁰ ALA. CODE § 45-36-171(c)(1) only applies to Jackson County, Alabama.

⁶¹ IDAHO ADMIN. CODE r. 02.04.32.250 is applicable only to poultry CAFOs.

⁶² MO. CODE REGS. ANN. tit. 10, § 10-6.165(3)(A) refers only to Class IA CAFOs (“concentrated animal feeding operation with a capacity of seven thousand (7,000) animal units or more” and corresponding to list (see Mo. CODE REGS. ANN. tit. 10, § 10-6.020).