

Review of Regulation of Hog Farms in Other States
EQC Water Policy Subcommittee
January 20, 2000

I. Federal Framework

- A. Deals with Surface Water or Ground Water Connected to Surface Water
- B. Clean Water Act
 - 1. NPDES permits-- must have a potential to discharge into surface water or ground water connected to surface water
 - 2. Effluent limitation guidelines for feedlots
- C. USDA-EPA Unified National Strategy for Animal Feeding Operations

II. Montana Framework

- A. Addresses Ground Water and Surface Water
- B. MPDES Permits
 - 1. General CAFO permit
 - 2. Individual CAFO permit
- C. Montana Ground Water Pollution Control System Permit

III. Other States With Laws/Regulations Specific to Swine

- A. Some are Multi-media: Water Quality, Air Quality, Land Use
- B. Examples of States with Laws/Regulations Specific to Swine
 - 1. Colorado
 - 2. Idaho
 - 3. Kansas
 - 4. Kentucky
 - 5. North Carolina
 - 6. Oklahoma
 - 7. North Carolina
 - 8. South Dakota
 - 9. Wyoming
- C. Overview of Selected States
 - 1. Colorado
 - a. November 1998 ballot proposal approved by voters
 - b. Elements of new law
 - (1) Additional regulation of construction and operation of large, commercial hog facilities and disposal of manure and wastewater from these facilities to minimize odor and water pollution.
 - (2) Additional restrictions on application of manure and wastewater to crops or land.
 - (3) Requires commercial hog facilities to obtain state permits for discharge of wastewater.

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- (4) A fee assessed on large hog farms to provide funding for enforcement of permit conditions.
 - (5) Requires the state to regulate odor from hog facilities.
 - (6) Prevents new waste application sites and waste storage tanks from being less than one mile from neighboring towns, homes, and schools, unless consent is given by nearby property owners and local governments.
 - (7) Allows local governments to impose regulations for hog facilities that are tougher than state law.
2. Kansas
- a. Kansas Legislature approved law in 1998 that established additional requirements for regulation of swine facilities.
 - b. Key elements of law. All elements apply to facilities with 1,000 or more AUs¹ unless otherwise noted.
 - (1) Setbacks for confined feeding facilities for swine with 300 or more AUs from: existing habitable structures; city, county, state, or federal parks; and wildlife refuges. Setback requirements do not apply to new habitable structures or parks.
 - (2) Notice and publication requirements.
 - (3) Setbacks from water sources.
 - (4) Manure management plans required. Soil testing required when manure is land applied.
 - (5) Nutrient utilization plans required if the manure or wastewater will be land applied. Land application of manure or waste water other than by incorporation into the soil during the same day is prohibited within 1,000 feet of: any habitable structure; city, county, state or federal park; or wildlife refuge. The law provides for exceptions to this provision. Requirements are established for use of an irrigation system to apply manure or wastewater from such facilities.
 - (6) Operator certification.

¹ Animal units are calculated by multiplying: 0.4 by the number of swine weighing more than 55 pounds; and 0.1 by the number of swine weighing 55 pounds or less.

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- (7) Odor control plans required for facilities.
- (8) Closure requirements including: a closure plan and financial assurance for closure costs is required for facilities with more than 3,725 AUs; closure requirements to be established by KDHE for swine retention lagoons or ponds.
- (9) Periodic inspection of swine facilities is required.
- (10) A liner is required for waste retention lagoons or ponds at swine facilities with an animal unit capacity of 3,725 or more.
- (11) The KDHE may require the installation of groundwater monitoring wells and may require sampling.
- (12) The KDHE may require vegetative screening (planting trees) to control odor.
- (13) The KDHE may adopt requirements governing location and construction of waste retention lagoons and ponds to protect the state's waters and soils.
- (14) Plans are required for handling of dead swine. The KDHE is authorized to adopt rules and regulations for handling of dead swine.
- (15) Kansas State University is required to cooperate with KDHE, other agencies and owners and operators of swine facilities to determine best available technology and best management practices.
- (16) KDHE is authorized to establish more stringent requirements.

3. Wyoming

- a. Legislation enacted in 1997.
- b. Law requires WDEQ to:
 - (1) Adopt standards for housed facilities where 2,500 or more swine are confined, fed and maintained for 45 days in any 12 month period.
 - (2) Establish financial assurance and closure requirements for facilities which contain treatment works.
 - (3) Establish setback requirements to restrict the location and operation of structures housing swine and lagoons (unless written consent) within: 1 mile of an

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occupied dwelling, a public or private school, or the boundaries of an incorporated municipality; or 1/4 mile of a domestic water well. Structures may not be located within 1/4 mile of a perennial stream unless it is demonstrated to the WDEQ that potential adverse impacts to the water quality of the stream can be avoided.

- c. Counties are authorized to adopt land use plans or zoning resolutions more stringent than state requirements.
- d. Rules establishing permitting, design and operation standards for confined swine regulations were adopted on May 26, 1999. Confined swine feeding operations are permitted separately from other CAFOs. Since Wyoming law and rules require that confined swine feeding operations be non-discharging facilities, an NPDES permit is not required for confined swine feeding operations.

IV. Elements of State Regulations Governing Confined/Concentrated Swine Feeding Operations

A. Threshold

1. Federal and Montana

a. AFO

- (1) Animals stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; and
- (2) Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

b. CAFO

- (1) Confines more than 1,000 animal units (AUs);² or

² Animal quantities equivalent to 1,000 animal units vary according to the type of animal. Specific numeric criteria are established in 40 *CFR* Part 122, Appendix B. The number of AUs for swine are calculated by multiplying the number of swine weighing over 25 kilograms (approximately 55 pounds) by 1.4. 1,000 AUs are equivalent to 2,500 swine each weighing more than 25 kilograms.

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- (2) Confines between 301³ to 1,000 AUs and discharges pollutants:
 - (a) into U.S. waters through a man-made ditch, flushing system, or similar man-made device, or
 - (b) directly into U.S. waters that originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.
 - (3) An AFO that discharges only in the event of a 25-year, 24-hour storm event is not a CAFO.
 - (4) The permitting authority (DEQ in Montana) can designate an AFO as a CAFO upon determining that the operation is a significant contributor of pollution to U.S. (or Montana) waters.
2. Other States
- a. Virtually all states use the federal definition for state NPDES CAFO programs.
 - b. Vast majority of states use the federal definition of CAFO for state non-NPDES CAFO programs.
 - c. Other thresholds
 - (1) Lower numeric thresholds (i.e., numbers of AUs).
 - (2) Gross income and numbers of AUs.
 - (3) Type of waste control system and design capacity of the system (based on weight).
- B. Air Quality/Odor
- 1. Measures that work for air and odor may also provide better protection for water quality and vice versa.
 - 2. Setbacks between land application sites, waste impoundments, lagoons and/or structures housing swine and dwellings, schools, municipalities, and/or parks (CO, KS, WY).
 - 3. Odor concentration standards
 - a. measured with a "scentometer" using nose of trained operator
 - b. Colorado has dilution standards that apply at boundary of operation and "receptor")

³ 750 swine each weighing over 25 kilograms. (40 CFR Part 122, Appendix B)

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4. Hydrogen sulfide standards/monitoring
 - a. MN regulates feedlot air emissions through enforcement of MN hydrogen sulfide ambient air standard.
 - (1) Highest concentration of hydrogen sulfide at swine and dairy facilities.
 - (2) No correlation between #'s of AUs and hydrogen sulfide. Facilities exceeding standard had from 100 to 2,000 animal units.
 - b. MN ambient air standard (for H₂S) more stringent than Montana's.
 5. Environmental review
 - a. MN evaluates potential to exceed ambient air standards during environmental review/permitting. If necessary preventative action required.
 6. Continuous air monitoring
 - a. MN requires when potential to exceed state standard.
 7. Odor control plans (KS)
 8. Vegetative screening (KS)
 9. BMP/BAT research (KS, MN)
 10. Covers for storage structures
 - a. Colorado requires covers for new, expanded, and existing anaerobic process wastewater vessels and impoundments (including treatment and storage lagoons). Testing is required to demonstrate compliance.
 11. Operation requirements for aerobic impoundments.
 - a. Colorado requires aerobic impoundments to have operational technologies to ensure maintenance of aerobic conditions or otherwise to minimize the emission of odorous gases to the greatest extent practicable.
 12. Technology
 - a. Colorado requires hog operations to employ technology to minimize to the greatest extent practicable off-site odor emissions from swine confinement structures, from animal waste, from composting storage sites, and to minimize odor and aerosol drift from land application equipment and sites.
 13. Air Permit Requirement (CO)
 14. Land Application restrictions (KS)
- C. Water
1. Setbacks from domestic wells, streams and/or water sources (WY,

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- KS).
- 2. Financial assurance and closure requirements (WY, KS).
- 3. Manure management plans (KS).
- 4. Soil testing (KS).
- 5. Nutrient utilization plans (KS, ID).
- 6. Liners required for waste retention lagoons or ponds at large swine facilities (KS).
- 7. Closure plan (ID).
- 8. BMPs/BAT (KS, MN).
- 9. Installation of ground water monitoring wells and sampling.
- 10. Design and location requirements for waste retention lagoons and ponds.
- 11. Construction plan for swine facility's waste management system (ID).
- 12. Permit application requirements showing design and site characteristics (ID).
- 13. Requirements governing use of irrigation system to apply manure/wastewater (KS).
- 14. Leak detection monitoring for liquid storage impoundments (ID).
- 15. Spill contingency plan (ID).
- D. Other
 - 1. Fees assessed on hog farms to pay for enforcement of permit conditions (ID, CO).
 - 2. Local governments authorized to be more stringent (CO, WY).
 - 3. Notice and publication requirements (KS).
 - 4. Operator certification (KS).
 - 5. Periodic inspection (KS).
 - 6. Plans for handling dead swine (KS).

V. Possible Next Steps for Water Policy Subcommittee

- A. Inventory Impacts
- B. Learn About Hog Industry
 - 1. Current numbers and size of operations in Montana.
 - 2. Efforts to bring more hog farms to Montana.
 - 3. Outlook
- C. Learn About Dairy Industry
- D. Review Hydrogen Sulfide and Ammonia data. Evaluate DEQ's ability to regulate under current law.
- E. Evaluate criteria for individual permit vs. general permit. Consider

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- establishment of different thresholds for swine operations.
- F. Identify specific tools used in other states that DEQ does not have the authority to implement. Evaluate and seek comment on desirability of authorizing or requiring those tools through legislation.
 - G. Seek comment on pros and cons of potential legislation modeled after one of the other states.
 - H. Evaluate local nuisance/odor control authorities.
 - I. Investigate nonregulatory efforts.
 - J.
 - K.
 - L.

Abbreviations

AFO	Animal Feeding Operation
AUs	Animal Units
BAT	Best Available Technology
BMP	Best Management Practice
CAFO	Concentrated Animal Feeding Operation
EPA	U.S. Environmental Protection Agency
KDHE	Kansas Department of Health and Environment
NPDES	National Pollutant Discharge Elimination System
WDEQ	Wyoming Department of Environmental Quality