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Chapter NR 243

ANIMAL WASTE MANAGEMENT

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Note: Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1997, No. 500.

Subchapter I — General

NR 243.01 Purpose. (1) The purpose of this chapter is to establish design standards and accepted animal waste management practices for the large animal feeding operations category of point sources. This chapter also establishes the criteria under which the department may issue a permit to other animal feeding operations which discharge pollutants to waters of the state. For other animal feeding operations, it is the intent of the department that a permit would be issued only when it can be demonstrated that an operation discharges a significant amount of pollutants to waters of the state. The authority for promulgation of this chapter is set forth in ch. 283, Stats.

(2) The department recognizes the unique nature of the state's agricultural industry and its declared interest in protecting and preserving our natural resources. The department also recognizes the benefit of animal waste applied to land for its fertilizer and soil conditioning value, and encourages the management and use of these materials in such a manner. Only those animal feeding operations which improperly manage their wastes and as a result cause ground or surface water pollution, or those subject to the requirements for large animal feeding operations will be regulated under this code. It is not the intent of the department to require that all animal feeding operations obtain a permit.

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.02 Applicability. The provisions of this chapter are applicable to discharges of pollutants resulting from large animal feeding operations within the subcategories specified in s. NR 243.11, table 2 and other animal feeding operations which discharge significant amounts of pollutants to waters of the state as determined under s. NR 243.21.

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.03 Severability. History: Cr. Register, February, 1984, No. 338, eff. 3−1−84; **repealed under s. 13.93 (2m) (b) 16., Stats., Register, August, 1997, No. 500.**

NR 243.04 Definitions. The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in ch. NR 205.

(1) "Accepted animal waste management practices" means practices, including but not limited to those prescribed in the technical guide, through which animal wastes are handled, stored and utilized in an environmentally accepted manner so that pollutants generated by animal feeding operations and discharged to waters of the state are reduced to levels compatible with water quality objectives established under chs. 281 and 283, Stats.

(2) "Animal feeding operation" means a feedlot or facility, other than a pasture, where animals have been, are or will be fed, confined, maintained or stabled for a total of 45 consecutive days or more in any 12−month period. Two or more animal feeding operations under common ownership are deemed to be a single animal feeding operation if they are adjacent to each other or if they utilize a common area or system for the disposal of wastes.

(3) "Animal unit" means a unit of measure used to determine the total number of single animal types or combination of animal types, as specified in s. NR 243.11, table 2, which are fed, confined, maintained or stabled in an animal feeding operation. For the purposes of this chapter, one animal unit is equivalent to one head of beef or slaughter cattle weighing more than 1000 pounds.

(4) "Animal waste" means excreta from livestock, poultry or other animals.

(5) "ASTM" means the American society for testing and materials.

(6) "Combined animal units" means any combination of animal types calculated by adding the number of single animal types as multiplied by the equivalency factors as specified in s. NR 243.11, table 2.

(7) "Contaminated runoff" means that portion of animal wastes and precipitation which flows from animal feeding operations and transports pollutants such as organic matter, suspended solids or nutrients.

(8) "County agency" means a land conservation committee, department or other agency of the county designated by the county board to provide assistance to the owner or operator of an animal feeding operation, as specified in ss. NR 243.22 and 243.23.

(9) "Diversion" means a structure built to divert part or all of the water from an existing waterway into a different channel.

(10) "Dry lot" means a facility for growing ducks in confinement with no access to external swimming areas.

(11) "Filter strip" means a strip or area of vegetation for reducing sediment, organic matter and other pollutants contained in runoff.

(12) "Grassed waterway" means a natural or constructed waterway or outlet shaped or graded and established in suitable vegetation as needed for the conveyance of runoff from a field, diversion, terrace or other structure.

(13) "Large animal feeding operation" means an animal feeding operation which feeds, confines, maintains or stables 1,000 animal units or more.

(14) "Permit" means a WPDES permit for the discharge of pollutants issued by the department under ch. 283, Stats.

(15) "Permanent runoff control structures" means constructions and devices installed to control, divert or retard surface runoff water.

(16) "Schedule of compliance" means a schedule of corrective measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation or other limitation, prohibition or standard.

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(17) "Storage facility" means an excavated or diked pond, walled structure or platform designed for containing animal wastes.

(18) "Technical guide" means Section IV of the Wisconsin edition of the soil conservation service technical guide effective on November 1, 1983.

Note: Copies of the technical guide may be inspected at the offices of the department, the secretary of state and the revisor of statutes.

(19) "Terrace" means an earthen embankment, channel or a combination of embankments and channels constructed across a slope which intercept and conduct surface runoff at a nonerosive velocity to a stable outlet.

(20) "10−year, 24−hour rainfall event" means a rainfall event measured in terms of the depth of rainfall occurring within a 24−hour period and having an expected recurrence interval of once in 10 years.

(21) "25−year, 24−hour rainfall event" means a rainfall event measured in terms of the depth of rainfall occurring within a 24−hour period and having an expected recurrence interval of once in 25 years.

(22) "Waters of the state" has the meaning specified under s. 283.01 (13), Stats.

Note: This definition includes both ground and surface water.

(23) "Wet lot" means a facility for raising ducks which is open to the environment with a small portion of shelter area, and with external swimming areas or open water runs to which ducks have free access.

(24) "WPDES" means the Wisconsin pollutant discharge elimination system.

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.05 Modification procedures. The design standards and accepted animal waste management practices specified in this chapter may be modified by the department for a discharge subject to the provisions of this chapter when the owner or operator responsible for that discharge demonstrates that such standards and practices are more stringent than necessary to avoid a detrimental effect on water quality. This demonstration may be made during the permit issuance process under ch. 283, Stats., and ch. NR 203, or during the plan review process under s. 281.41, Stats.

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.06 Rainfall events. The design rainfall amount and probable intensity of 10−year and 25−year, 24−hour rainfall events for locations in Wisconsin shall be determined from the data in table 1, or for a particular location such determination may be made on the basis of more recent rainfall probability data verified by a government agency and approved by the department for this purpose.

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TABLE 1
Probable 24−Hour Rainfall Events, In Inches of rain, for counties in Wisconsin

	10−year	25−year		10−year	25−year
Adams	4.1	4.7	Marathon	4.0	4.5
Ashland	3.9	4.3	Marinette	3.6	4.1
Barron	4.1	4.6	Marquette	4.1	4.6
Bayfield	3.9	4.4	Menominee	3.7	4.3
Brown	3.7	4.3	Milwaukee	3.9	4.5
Buffalo	4.3	4.8	Monroe	4.2	4.8
Burnett	4.0	4.6	Oconto	3.7	4.2
Calumet	3.8	4.4	Oneida	3.8	4.3
Chippewa	4.1	4.7	Outagamie	3.8	4.4
Clark	4.1	4.7	Ozaukee	3.9	4.4
Columbia	4.1	4.7	Pepin	4.3	4.8
Crawford	4.3	5.0	Pierce	4.2	4.8
Dane	4.2	4.8	Polk	4.1	4.7
Dodge	4.0	4.6	Portage	4.0	4.5
Door	3.6	4.1	Price	4.0	4.4
Douglas	3.9	4.4	Racine	4.0	4.6
Dunn	4.2	4.7	Richland	4.3	4.9
Eau Claire	4.2	4.7	Rock	4.1	4.7
Florence	3.6	4.1	Rusk	4.1	4.6
Fond du Lac	3.9	4.5	St. Croix	4.2	4.7
Forest	3.7	4.2	Sauk	4.2	4.8
Grant	4.3	5.0	Sawyer	4.0	4.5
Green	4.2	4.8	Shawano	3.8	4.4
Green Lake	4.0	4.6	Sheboygan	3.8	4.4
Iowa	4.3	4.9	Taylor	4.1	4.6
Iron	3.8	4.3	Trempealeau	4.3	4.8
Jackson	4.2	4.8	Vernon	4.3	4.9
Jefferson	4.0	4.6	Vilas	3.8	4.3
Juneau	4.1	4.7	Walworth	4.1	4.6
Kenosha	4.0	4.6	Washburn	4.0	4.5
Kewaunee	3.7	4.2	Washington	3.9	4.5
LaCrosse	4.3	4.9	Waukesha	4.0	4.6
Lafayette	4.3	4.9	Waupaca	3.9	4.5
Langlade	3.8	4.3	Waushara	4.0	4.6
Lincoln	3.9	4.4	Winnebago	3.9	4.5
Manitowoc	3.8	4.3	Wood	4.1	4.6

Note: The data of table 1 were obtained by extrapolation from maps published by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States".

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

Subchapter II — Large Animal Feeding Operations

NR 243.11 Applicability. Any person who owns or operates a large animal feeding operation shall be required to file an application for a permit with the department. The total number of animal units for a subcategory shall be calculated by multiplying the number of animals for each animal type by the appropriate equivalency factor from table 2, and summing the products. The number of combined animal units shall be the sum of the number of animal units for each subcategory. Based on the application and the provisions of this subchapter, the department shall determine whether a permit needs to be issued.

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TABLE 2
Number of Animal Types Equivalent to 1000 Animal Units and Animal Equivalency Factors

Number Equivalent To 1,000 Animal Units	Subcategory of Animal Types	Animal Equivalency Factor
	DAIRY CATTLE:	
700	Milking and Dry Cows	1.4
910	Heifers (800 to 1200 lbs)	1.1
1670	Heifers (400 to 800 lbs)	0.6
5000	Calves (under 400 lbs)	0.2
	BEEF CATTLE:	
1000	Steers or Cows (1000 lbs to Mkt)	1.0
1250	Steers or Cows (600 to 1000 lbs)	0.8
2000	Calves (under 600 lbs)	0.5
700	Bulls	1.4
	SWINE:	
2500	Pigs (55 lbs to Mkt)	0.4
10000	Pigs (up to 55 lbs)	0.1
2500	Sows	0.4
2000	Boars	0.5
	SHEEP:	
10000	Per Animal	0.1
	HORSES:	
500	Per Animal	2.0
	DUCKS:	
5000	Per Bird (Wet Lot)	0.2
100000	Per Bird (Dry Lot)	0.01
	CHICKENS:	
100000	Layers	0.01
200000	Broilers	0.005
	TURKEYS:	
55000	Per Bird	0.018
	COMBINED ANIMAL UNITS:	
1000	Calculated Total	

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.12 Design standard. Owners or operators of large animal feeding operations shall design permanent runoff control structures according to the maximum amount of rainfall generated by a 25−year, 24−hour rainfall event for the location of the point source. This standard may be modified in accordance with the provisions of s. NR 243.05.

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.13 Runoff control. (1) Owners or operators of large animal feeding operations which are required to obtain a WPDES permit shall control point sources of contaminated runoff in accordance with the design standard specified in s. NR 243.12. This design standard shall be achieved by installing permanent runoff control structures which include, but are not limited to, established practices specified in the technical guide, such as, filter strips, grassed waterways, diversions or terraces.

(2) Practices other than those contained in the technical guide may be substituted to satisfy the provisions of sub. (1) provided that such substitutions are approved as alternative practices by the department. Approval will be granted if the alternative practice is designed according to standard engineering principles and the design achieves the level of runoff control specified in s. NR 243.12.

(3) The department may require that the level of runoff control specified in s. NR 243.12 be superseded by additional discharge limitations, if the department can demonstrate that such limitations are necessary to achieve water quality standards designated in chs. NR 102 to 104.

History: Cr. Register, February, 1984, No. 338, eff. 3−1−84.

NR 243.14 Storage and disposal of animal wastes. (1) Owners or operators of large animal feeding operations which are required to obtain a WPDES permit and have selected temporary storage as part of an animal waste management system shall install storage facilities in accordance with the design specifications for waste storage ponds contained in standard number 425 of the technical guide, or waste storage structures contained in standard number 313 of the technical guide.

(a) If an earthen lined storage facility is constructed, the owner or operator shall submit a report to the department describing the results of samples required under the provisions of subds. 1. and 2. Approval of the report will be granted by the department if the sample results meet or exceed the design specifications contained in standard number 425 of the technical guide. The testing required under the provisions of subds. 1. and 2. shall be conducted according to the requirements of par. (b).

1. Prior to construction of an earthen lined storage facility, representative samples shall be taken from the soil used to line the bottom and sidewalls of the facility and analyzed by a soils testing laboratory or engineering firm for the following parameters: dry density, water content, compaction curves, particle size distribution, plastic index, permeability at design compaction and soil classification.

2. Following construction of an earthen lined storage facility, the department may also require that random core samples be extracted from the constructed liner, in the event that critical groundwater, geologic or construction conditions warrant. When testing is required, the core samples shall be extracted at a rate of 4 per acre of wetted area; except that a minimum of 3 core samples shall be extracted if the wetted area is less than one acre. The samples shall be split proportionally between the wetted areas of the bottom liner and sidewall liner relative to the total area of each. All test holes shall be recompacted to a density equal to or greater than the surrounding liner material. All of the core samples shall be analyzed by a soils testing laboratory or engineering firm for the following parameters: dry density, water content, degree of compaction, thickness of seal and particle size distribution. A permeability test shall also be performed on at least 25% of the total number of samples. The performance standard for liner thickness shall be considered met if the thickness of each of the liner samples is equal to or greater than the specified design thickness.

(b) The testing required in par. (a)1. and 2. shall be conducted in accordance with the methods specified in table 3; except that the permeability of constructed earthen liners shall be determined using a laboratory permeability test on hydrated and saturated specimens of the liner material, compacted at the same approximate density as exists in the in−field condition. Tests may be performed on remolded or core samples. The permeability shall be based on stabilized inflow and outflow rates during the test. Methods other than those listed in table 3 may be approved by the department on a case−by−case basis.

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TABLE 3
Soil Testing Methods

Test	Method
Core Sample Extraction	ASTM D1587 (1974)
Particle Size Analysis	ASTM D422 (1972)
Plastic Index	ASTM D424 (1971)
Standard Proctor Density	ASTM D698 (1978)
In Place Density	ASTM D2922 (1978) or ASTM D2937 (1976)
Soil Classification	Unified and U.S. Department of Agriculture Classification Systems

Note: Copies of ASTM standards referenced in this chapter are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes. ASTM standards may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(c) The department may require the installation of groundwater monitoring wells in the vicinity of earthen storage facilities in those situations where critical groundwater, geologic or construction conditions warrant. If a groundwater monitoring system is required, it shall be designed, constructed and monitored in accordance with s. NR 214.12 (2) (d) to (o) and (3).

(2) Owners or operators of large animal feeding operations which are required to obtain a WPDES permit shall, as part of the permit application, develop and submit to the department for approval an animal waste management plan complying with the specifications for waste utilization contained in standard number 633 of the technical guide. The management plan may be amended at any time providing the proposed amendments are approved in writing by the department. The amendments may not be put into effect until an approval has been received by the owner or operator.

(a) The department shall consider the following factors when reviewing and approving the management plan, or any proposed amendments to an approved management plan:

1. Potential impacts on waters of the state due to overapplication of the animal wastes.

2. Soil limitations such as permeability, infiltration rate, drainage class and flooding hazard.

3. Volume and water content of the waste material.

4. Available storage capacity and method of application.

5. Nutrient requirements of the crop or crops to be grown on the fields utilizing the animal wastes.

(b) The owner or operator shall be responsible for the implementation of the approved management plan, in accordance with special conditions contained in the WPDES permit. The special conditions contained in the WPDES permit will be developed from the approved management plan and may specify such considerations as the need for incorporation of the waste material into the soil, winter spreading limitations, distribution schedules and nutrient loading rates.

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.

Subchapter III — Other Animal Feeding Operations

NR 243.21 Applicability. (1) Other animal feeding operations not identified in s. NR 243.11, table 2 may be subject to the provisions of this subchapter, if the department determines through an onsite investigation that unacceptable practices of the operation are causing or have caused the discharge of a significant amount of pollutants to waters of the state.

(2) The types of unacceptable practices which may result in a determination by the department that an animal feeding operation is discharging or has discharged a significant amount of pollutants to waters of the state include:

(a) Overflow from an animal waste storage facility;

(b) Overapplication of animal wastes;

(c) Direct runoff of animal waste from the operation;

(d) Discharge of leachate from a manure stack;

(e) Seepage from an animal waste storage facility; or

(f) Construction of an animal waste storage facility in permeable soils or over fractured bedrock without a liner designed to meet the specifications for waste storage ponds contained in standard number 425 of the technical guide.

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.

NR 243.22 Onsite investigation. (1) No determination may be made by the department that a discharge of significant amounts of pollutants to waters of the state is occurring or has occurred until there has been an onsite investigation. In making the determination under this section, the department shall consider:

(a) The impact on the waters of the state receiving the discharge;

(b) The size of the animal feeding operation and the amount of wastes reaching waters of the state;

(c) The location of the animal feeding operation relative to waters of the state;

(d) The means by which the animal wastes are conveyed into waters of the state; and

(e) The slope, vegetation, rainfall, tributary drainage area and other factors contributing to the amount and frequency of discharge of animal wastes into waters of the state.

(2) In making the determination under this section, the department shall contact the designated county agency and request that assistance be provided to the owner or operator. This contact will be made as early as possible to maximize opportunities for the designated county agency to provide assistance to the owner or operator.

(3) The department will prepare a report which describes the results of the onsite investigation. A copy of the report of the onsite investigation shall be provided to the owner or operator. If requested, a copy of the report shall also be provided to the designated county agency.

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.

NR 243.23 Notice of discharge. (1) Upon a determination under s. NR 243.22 that the discharge of significant amounts of pollutants to waters of the state is occurring or has occurred, the department shall provide the owner or operator of the animal feeding operation with a notice setting forth:

(a) The nature of the discharge;

(b) A list of known governmental or private services which may be available to provide technical or financial assistance;

(c) One or more suggested corrective measures for controlling the discharge; and

(d) A reasonable time period for implementing necessary corrective measures, which may not be less than 60 days nor more than 2 years from the date of the notice, unless an alternative time period has been mutually agreed upon by the department and the owner or operator.

(2) The owner or operator of the animal feeding operation shall control the discharge by implementing necessary corrective measures in compliance with the provisions of ss. NR 243.25 and 243.26.

(3) When the designated county agency has expressed an interest in reviewing the proposed corrective measures, the owner or operator may submit the proposal to that agency for review. If the designated county agency does not wish to review the proposal, the department may request that the proposal be submitted to the department for review prior to implementing the corrective measures.

(4) If the designated county agency chooses to review the proposal, a written report shall be submitted to the department which

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specifies the accepted animal waste management practice to be used in controlling the discharge. If a practice other than that specified in the technical guide is proposed, the written report shall specify the manner in which the alternative practice satisfies the provisions of s. NR 243.26 (2). A copy of the report shall also be sent to the owner or operator.

(5) The owner or operator or designated county agency shall notify the department as to the status of implementing the corrective measures at the end of the time period specified in sub. (1) (d).

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.

NR 243.24 Permit. Failure to implement the necessary corrective measures within the time period provided in the notice of discharge under s. NR 243.23, will result in the department notifying the owner or operator of the animal feeding operation of the need to apply for a WPDES permit. WPDES permits issued under this section may contain a schedule of compliance designed to implement accepted animal waste management practices necessary to control the discharge. Under the provisions of ch. NR 203, the owner or operator may request an administrative review of the department's decision to issue a WPDES permit and the terms and conditions which that permit may contain.

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.

NR 243.25 Design standard. Owners or operators of animal feeding operations subject to the provisions of s. NR 243.23 or 243.24 shall design and install permanent runoff control structures, according to the maximum amount of rainfall generated by a 10–year, 24–hour rainfall event for the location of the point source. This standard may be modified in accordance with the provisions of s. NR 243.05.

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.

NR 243.26 Accepted animal waste management practices. (1) Accepted animal waste management practices shall be used to satisfy the requirements of either s. NR 243.23 or 243.24 in implementing the necessary corrective measures relative to runoff control, storage or disposal of animal wastes.

(2) Practices other than those specified in the technical guide may be substituted to satisfy the provisions of sub. (1) provided that such substitutions are reviewed and recommended by the designated county agency and approved by the department. Approval will be granted if the alternative practice is designed according to standard engineering principles and the design achieves the level of runoff control specified in s. NR 243.25.

(3) The department may require that the level of runoff control specified in s. NR 243.25 be superseded by additional discharge limits, if the department can demonstrate that such limitations are necessary to achieve water quality standards specified in chs. NR 102 to 104.

History: Cr. Register, February, 1984, No. 338, eff. 3–1–84.