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# Title 40

## PART 412 - CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFO) POINT SOURCE CATEGORY

**Authority:** 33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342, 1361.

**Source:** 68 FR 7269, Feb. 12, 2003, unless otherwise noted.

### § 412.1 General applicability.

This part applies to manure, litter, and/or process wastewater discharges resulting from concentrated animal feeding operations (CAFOs). Manufacturing and/or agricultural activities which may be subject to this part are generally reported under one or more of the following Standard Industrial Classification (SIC) codes: SIC 0211, SIC 0213, SIC 0214, SIC 0241, SIC 0251, SIC 0252, SIC 0253, SIC 0254, SIC 0259, or SIC 0272 (1987 SIC Manual).

### § 412.2 General definitions.

As used in this part:

- (a) The general definitions and abbreviations at 40 CFR part 401 apply.
- (b) **Animal Feeding Operation (AFO)** and **Concentrated Animal Feeding Operation (CAFO)** are defined at 40 CFR 122.23.
- (c) **Fecal coliform** means the bacterial count (Parameter 1) at 40 CFR 136.3 in Table 1A, which also cites the approved methods of analysis.
- (d) **Process wastewater** means water directly or indirectly used in the operation of the CAFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other CAFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding.
- (e) **Land application area** means land under the control of an AFO owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied.
- (f) **New source** is defined at 40 CFR 122.2. New source criteria are defined at 40 CFR 122.29(b).
- (g) **Overflow** means the discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or storm water can be contained by the structure.
- (h) **Production area** means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.
- (i) **Ten (10)-year, 24-hour rainfall event, 25-year, 24-hour rainfall event, and 100-year, 24-hour rainfall event** mean precipitation events with a probable recurrence interval of once in ten years, or twenty five years, or one hundred years, respectively, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May, 1961, or equivalent regional or State rainfall probability information developed from this source.
- (j) **Analytical methods.** The parameters that are regulated or referenced in this part and listed with approved methods of analysis in Table 1B at 40 CFR 136.3 are defined as follows:
  - (1) **Ammonia (as N)** means ammonia reported as nitrogen.

- (2) **BOD5** means 5-day biochemical oxygen demand.
- (3) **Nitrate (as N)** means nitrate reported as nitrogen.
- (4) **Total dissolved solids** means nonfilterable residue.
- (k) The parameters that are regulated or referenced in this part and listed with approved methods of analysis in Table 1A at 40 CFR 136.3 are defined as follows:
  - (1) **Fecal coliform** means fecal coliform bacteria.
  - (2) **Total coliform** means all coliform bacteria.

### § 412.3 General pretreatment standards.

Any source subject to this part that introduces process wastewater pollutants into a publicly owned treatment works (POTW) must comply with 40 CFR part 403.

### § 412.4 Best management practices (BMPs) for land application of manure, litter, and process wastewater.

- (a) **Applicability.** This section applies to any CAFO subject to subpart C of this part (Dairy and Beef Cattle other than Veal Calves) or subpart D of this part (Swine, Poultry, and Veal Calves).
- (b) **Specialized definitions.**
  - (1) **Setback** means a specified distance from surface waters or potential conduits to surface waters where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.
  - (2) **Vegetated buffer** means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.
  - (3) **Multi-year phosphorus application** means phosphorus applied to a field in excess of the crop needs for that year. In multi-year phosphorus applications, no additional manure, litter, or process wastewater is applied to the same land in subsequent years until the applied phosphorus has been removed from the field via harvest and crop removal.
- (c) **Requirement to develop and implement best management practices.** Each CAFO subject to this section that land applies manure, litter, or process wastewater, must do so in accordance with the following practices:
  - (1) **Nutrient Management Plan.** The CAFO must develop and implement a nutrient management plan that incorporates the requirements of paragraphs (c)(2) through (c)(5) of this section based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters.
  - (2) **Determination of application rates.** Application rates for manure, litter, and other process wastewater applied to land under the ownership or operational control of the CAFO must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the technical standards for nutrient management established by the Director. Such technical standards for nutrient management shall:
    - (i) Include a field-specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters, and address the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters; and
    - (ii) Include appropriate flexibilities for any CAFO to implement nutrient management practices to comply with the technical standards, including consideration of multi-year phosphorus application on fields that do not have a high potential for phosphorus runoff to surface water, phased implementation of phosphorus-based nutrient management, and other components, as determined appropriate by the Director.
  - (3) **Manure and soil sampling.** Manure must be analyzed a minimum of once annually for nitrogen and phosphorus content, and soil analyzed a minimum of once every five years for phosphorus content. The results of these analyses are to be used in determining application rates for manure, litter, and other process wastewater.

- (4) **Inspect land application equipment for leaks.** The operator must periodically inspect equipment used for land application of manure, litter, or process wastewater.
- (5) **Setback requirements.** Unless the CAFO exercises one of the compliance alternatives provided for in paragraph (c) (5)(i) or (c)(5)(ii) of this section, manure, litter, and process wastewater may not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters.
  - (i) **Vegetated buffer compliance alternative.** As a compliance alternative, the CAFO may substitute the 100-foot setback with a 35-foot wide vegetated buffer where applications of manure, litter, or process wastewater are prohibited.
  - (ii) **Alternative practices compliance alternative.** As a compliance alternative, the CAFO may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback.

## Subpart A - Horses and Sheep

### § 412.10 Applicability.

This subpart applies to discharges resulting from the production areas at horse and sheep CAFOs. This subpart does not apply to such CAFOs with less than the following capacities: 10,000 sheep or 500 horses.

### § 412.11 [Reserved]

### § 412.12 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

- (a) Except as provided in 40 CFR 125.30 through 125.32, and subject to the provisions of paragraph (b) of this section, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT: There shall be no discharge of process waste water pollutants to navigable waters.
- (b) Process waste pollutants in the overflow may be discharged to navigable waters whenever rainfall events, either chronic or catastrophic, cause an overflow of process waste water from a facility designed, constructed and operated to contain all process generated waste waters plus the runoff from a 10-year, 24-hour rainfall event for the location of the point source.

### § 412.13 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

- (a) Except as provided in 40 CFR 125.30 through 125.32 and when the provisions of paragraph (b) of this section apply, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT: There shall be no discharge of process waste water pollutants into U.S. waters.
- (b) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source, any process wastewater pollutants in the overflow may be discharged into U.S. waters.

### § 412.14 [Reserved]

### § 412.15 New source performance standards (NSPS).

- (a) Except as provided in paragraph (b) of this section, any new source subject to this subpart must achieve the following performance standards: There must be no discharge of process wastewater pollutants into U.S. waters.
- (b) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source, any process wastewater pollutants in the overflow may be discharged into U.S. waters.

## Subpart B - Ducks

### § 412.20 Applicability.

This subpart applies to discharges resulting from the production areas at dry lot and wet lot duck CAFOs. This subpart does not apply to such CAFOs with less than the following capacities: 5,000 ducks.

### § 412.21 Special definitions.

For the purposes of this subpart:

- (a) *Dry lot* means a facility for growing ducks in confinement with a dry litter floor cover and no access to swimming areas.
- (b) *Wet lot* means a confinement facility for raising ducks which is open to the environment, has a small number of sheltered areas, and with open water runs and swimming areas to which ducks have free access.

### § 412.22 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

- (a) Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the (BPT):

Regulated parameter	Maximum daily <sup>1</sup>	Maximum monthly average <sup>1</sup>	Maximum daily <sup>2</sup>	Maximum monthly average <sup>2</sup>
BOD <sub>5</sub>	3.66	2.0	1.66	0.91
Fecal coliform	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> Pounds per 1000 ducks.

<sup>2</sup> Kilograms per 1000 ducks.

<sup>3</sup> Not to exceed MPN of 400 per 100 ml at any time.

- (b) [Reserved]

### §§ 412.23-412.24 [Reserved]

### § 412.25 New source performance standards (NSPS).

- (a) Except as provided in paragraph (b) of this section, any new source subject to this subpart must achieve the following performance standards: There must be no discharge of process waste water pollutants into U.S. waters.
- (b) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source, any process wastewater pollutants in the overflow may be discharged into U.S. waters.

### § 412.26 Pretreatment standards for new sources (PSNS).

- (a) Except as provided in 40 CFR 403.7 and in paragraph (b) of this section, any new source subject to this subpart must achieve the following performance standards: There must be no introduction of process waste water pollutants to a POTW.
- (b) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source, any process wastewater pollutants in the overflow may be introduced to a POTW.

## Subpart C - Dairy Cows and Cattle Other Than Veal Calves

### § 412.30 Applicability.

This subpart applies to operations defined as concentrated animal feeding operations (CAFOs) under 40 CFR 122.23 and includes the following animals: mature dairy cows, either milking or dry; cattle other than mature dairy cows or veal calves. Cattle other than mature dairy cows includes but is not limited to heifers, steers, and bulls. This subpart does not apply to such CAFOs with less than the following capacities: 700 mature dairy cows whether milked or dry; 1,000 cattle other than mature dairy cows or veal calves.

### § 412.31 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

- (a) **For CAFO production areas.** Except as provided in paragraphs (a)(1) through (a)(2) of this section, there must be no discharge of manure, litter, or process wastewater pollutants into waters of the U.S. from the production area.
  - (1) Whenever precipitation causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged into U.S. waters provided:
    - (i) The production area is designed, constructed, operated and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event;
    - (ii) The production area is operated in accordance with the additional measures and records required by § 412.37(a) and (b).
  - (2) **Voluntary alternative performance standards.** Any CAFO subject to this subpart may request the Director to establish NPDES permit effluent limitations based upon site-specific alternative technologies that achieve a quantity of pollutants discharged from the production area equal to or less than the quantity of pollutants that would be discharged under the baseline performance standards as provided by paragraph (a)(1) of this section.
    - (i) **Supporting information.** In requesting site-specific effluent limitations to be included in the NPDES permit, the CAFO owner or operator must submit a supporting technical analysis and any other relevant information and data that would support such site-specific effluent limitations within the time frame provided by the Director. The supporting technical analysis must include calculation of the quantity of pollutants discharged, on a mass basis where appropriate, based on a site-specific analysis of a system designed, constructed, operated, and maintained to contain all manure, litter, and process wastewater, including the runoff from a 25-year, 24-hour rainfall event. The technical analysis of the discharge of pollutants must include:
      - (A) All daily *inputs* to the storage system, including manure, litter, all process waste waters, direct precipitation, and runoff.
      - (B) All daily *outputs* from the storage system, including losses due to evaporation, sludge removal, and the removal of waste water for use on cropland at the CAFO or transport off site.
      - (C) A calculation determining the predicted median annual overflow volume based on a 25-year period of actual rainfall data applicable to the site.
      - (D) Site-specific pollutant data, including N, P, BOD<sub>5</sub>, TSS, for the CAFO from representative sampling and analysis of all sources of input to the storage system, or other appropriate pollutant data.
      - (E) Predicted annual average discharge of pollutants, expressed where appropriate as a mass discharge on a daily basis (lbs/day), and calculated considering paragraphs (a)(2)(i)(A) through (a)(2)(i)(D) of this section.
    - (ii) The Director has the discretion to request additional information to supplement the supporting technical analysis, including inspection of the CAFO.
  - (3) The CAFO shall attain the limitations and requirements of this paragraph as of the date of permit coverage.
- (b) **For CAFO land application areas.** Discharges from land application areas are subject to the following requirements:
  - (1) Develop and implement the best management practices specified in § 412.4;

- (2) Maintain the records specified at § 412.37 (c);
- (3) The CAFO shall attain the limitations and requirements of this paragraph by February 27, 2009.

[68 FR 7269, Feb. 12, 2003, as amended at 71 FR 6984, Feb. 10, 2006; 72 FR 40250, July 24, 2007]

#### **§ 412.32 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT:

- (a) For CAFO production areas: the CAFO shall attain the same limitations and requirements as § 412.31(a).
- (b) For CAFO land application areas: the CAFO shall attain the same limitations and requirements as § 412.31(b).

#### **§ 412.33 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT:

- (a) For CAFO production areas: the CAFO shall attain the same limitations and requirements as § 412.31(a).
- (b) For CAFO land application areas: the CAFO shall attain the same limitations and requirements as § 412.31(b).

#### **§ 412.34 [Reserved]**

#### **§ 412.35 New source performance standards (NSPS).**

Any new point source subject to this subpart must achieve the following effluent limitations representing the application of NSPS:

- (a) *For CAFO production areas.* The CAFO shall attain the same limitations and requirements as § 412.31(a)(1) and § 412.31(a)(2).
- (b) *For CAFO land application areas:* The CAFO shall attain the same limitations and requirements as § 412.31(b)(1) and § 412.31(b)(2).
- (c) The CAFO shall attain the limitations and requirements of this paragraph as of the date of permit coverage.
- (d) Any source subject to this subpart that commenced discharging after April 14, 1993, and prior to April 14, 2003, which was a new source subject to the standards specified in § 412.15, revised as of July 1, 2002, must continue to achieve those standards for the applicable time period specified in 40 CFR 122.29(d)(1). Thereafter, the source must achieve the standards specified in § 412.31(a) and (b).

#### **§ 412.36 [Reserved]**

#### **§ 412.37 Additional measures.**

- (a) Each CAFO subject to this subpart must implement the following requirements:
  - (1) **Visual inspections.** There must be routine visual inspections of the CAFO production area. At a minimum, the following must be visually inspected:
    - (i) Weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channelling contaminated storm water to the wastewater and manure storage and containment structure;
    - (ii) Daily inspection of water lines, including drinking water or cooling water lines;
    - (iii) Weekly inspections of the manure, litter, and process wastewater impoundments; the inspection will note the level in liquid impoundments as indicated by the depth marker in paragraph (a)(2) of this section.

- (2) **Depth marker.** All open surface liquid impoundments must have a depth marker which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event. In the case of new sources subject to effluent limitations established pursuant to § 412.46(a)(1) of this part, all open surface manure storage structures associated with such sources must include a depth marker which clearly indicates the minimum capacity necessary to contain the maximum runoff and direct precipitation associated with the design storm used in sizing the impoundment for no discharge.
  - (3) **Corrective actions.** Any deficiencies found as a result of these inspections must be corrected as soon as possible.
  - (4) **Mortality handling.** Mortalities must not be disposed of in any liquid manure or process wastewater system, and must be handled in such a way as to prevent the discharge of pollutants to surface water, unless alternative technologies pursuant to § 412.31(a)(2) and approved by the Director are designed to handle mortalities.
- (b) **Record keeping requirements for the production area.** Each CAFO must maintain on-site for a period of five years from the date they are created a complete copy of the information required by 40 CFR 122.21(i)(1) and 40 CFR 122.42(e)(1)(ix) and the records specified in paragraphs (b)(1) through (b)(6) of this section. The CAFO must make these records available to the Director and, in an authorized State, the Regional Administrator, or his or her designee, for review upon request.
- (1) Records documenting the inspections required under paragraph (a)(1) of this section;
  - (2) Weekly records of the depth of the manure and process wastewater in the liquid impoundment as indicated by the depth marker under paragraph (a)(2) of this section;
  - (3) Records documenting any actions taken to correct deficiencies required under paragraph (a)(3) of this section. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction;
  - (4) Records of mortalities management and practices used by the CAFO to meet the requirements of paragraph (a)(4) of this section.
  - (5) Records documenting the current design of any manure or litter storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity;
  - (6) Records of the date, time, and estimated volume of any overflow.
- (c) **Recordkeeping requirements for the land application areas.** Each CAFO must maintain on-site a copy of its site-specific nutrient management plan. Each CAFO must maintain on-site for a period of five years from the date they are created a complete copy of the information required by § 412.4 and 40 CFR 122.42(e)(1)(ix) and the records specified in paragraphs (c)(1) through (c)(10) of this section. The CAFO must make these records available to the Director and, in an authorized State, the Regional Administrator, or his or her designee, for review upon request.
- (1) Expected crop yields;
  - (2) The date(s) manure, litter, or process waste water is applied to each field;
  - (3) Weather conditions at time of application and for 24 hours prior to and following application;
  - (4) Test methods used to sample and analyze manure, litter, process waste water, and soil;
  - (5) Results from manure, litter, process waste water, and soil sampling;
  - (6) Explanation of the basis for determining manure application rates, as provided in the technical standards established by the Director.
  - (7) Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than manure, litter, or process wastewater;
  - (8) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied;
  - (9) The method used to apply the manure, litter, or process wastewater;
  - (10) Date(s) of manure application equipment inspection.

[68 FR 7269, Feb. 12, 2003, as amended at 73 FR 70485, Nov. 20, 2008]

## Subpart D - Swine, Poultry, and Veal Calves



### **§ 412.40 Applicability.**

This subpart applies to operations defined as concentrated animal feeding operations (CAFOs) under 40 CFR 122.23 and includes the following animals: swine; chickens; turkeys; and veal calves. This subpart does not apply to such CAFOs with less than the following capacities: 2,500 swine each weighing 55 lbs. or more; 10,000 swine each weighing less than 55 lbs.; 30,000 laying hens or broilers if the facility uses a liquid manure handling system; 82,000 laying hens if the facility uses other than a liquid manure handling system; 125,000 chickens other than laying hens if the facility uses other than a liquid manure handling system; 55,000 turkeys; and 1,000 veal calves.

### **§§ 412.41-412.42 [Reserved]**

### **§ 412.43 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

(a) *For CAFO production areas.*

- (1) The CAFO shall attain the same limitations and requirements as § 412.31(a)(1) through (a)(2).
- (2) The CAFO shall attain the limitations and requirements of this paragraph as of the date of permit coverage.

(b) *For CAFO land application areas.*

- (1) The CAFO shall attain the same limitations and requirements as § 412.31(b)(1) and (b)(2).
- (2) The CAFO shall attain the limitations and requirements of this paragraph by February 27, 2009.

[68 FR 7269, Feb. 12, 2003, as amended at 71 FR 6984, Feb. 10, 2006; 72 FR 40250, July 24, 2007]

### **§ 412.44 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT:

- (a) *For CAFO production areas:* the CAFO shall attain the same limitations and requirements as § 412.43(a).
- (b) *For CAFO land application areas:* the CAFO shall attain the same limitations and requirements as § 412.43(b).

### **§ 412.45 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT:

- (a) *For CAFO production areas:* the CAFO shall attain the same limitations and requirements as § 412.43(a).
- (b) *For CAFO land application areas:* the CAFO shall attain the same limitations and requirements as § 412.43(b).

### **§ 412.46 New source performance standards (NSPS).**

Any new source subject to this subpart must achieve the following effluent limitations representing the application of NSPS:

- (a) *For CAFO production areas.* There must be no discharge of manure, litter, or process wastewater pollutants into waters of the U.S. from the production area, subject to paragraphs (a)(1) through (a)(3) of this section.
  - (1) Any CAFO subject to this subpart may request that the Director establish NPDES permit best management practice effluent limitations designed to ensure no discharge of manure, litter, or process wastewater based upon a site-specific evaluation of the CAFO's open surface manure storage structure. The NPDES permit best management

practice effluent limitations must address the CAFO's entire production area. In the case of any CAFO using an open surface manure storage structure for which the Director establishes such effluent limitations, "no discharge of manure, litter, or process wastewater pollutants," as used in this section, means that the storage structure is designed, operated, and maintained in accordance with best management practices established by the Director on a site-specific basis after a technical evaluation of the storage structure. The technical evaluation must address the following elements:

- (i) Information to be used in the design of the open manure storage structure including, but not limited to, the following: minimum storage periods for rainy seasons, additional minimum capacity for chronic rainfalls, applicable technical standards that prohibit or otherwise limit land application to frozen, saturated, or snow-covered ground, planned emptying and dewatering schedules consistent with the CAFO's Nutrient Management Plan, additional storage capacity for manure intended to be transferred to another recipient at a later time, and any other factors that would affect the sizing of the open manure storage structure.
  - (ii) The design of the open manure storage structure as determined by the most recent version of the National Resource Conservation Service's Animal Waste Management (AWM) software. CAFOs may use equivalent design software or procedures as approved by the Director.
  - (iii) All inputs used in the open manure storage structure design including actual climate data for the previous 30 years consisting of historical average monthly precipitation and evaporation values, the number and types of animals, anticipated animal sizes or weights, any added water and bedding, any other process wastewater, and the size and condition of outside areas exposed to rainfall and contributing runoff to the open manure storage structure.
  - (iv) The planned minimum period of storage in months including, but not limited to, the factors for designing an open manure storage structure listed in paragraph (a)(1)(i) of this section. Alternatively the CAFO may determine the minimum period of storage by specifying times the storage pond will be emptied consistent with the CAFO's Nutrient Management Plan.
  - (v) Site-specific predicted design specifications including dimensions of the storage facility, daily manure and wastewater additions, the size and characteristics of the land application areas, and the total calculated storage period in months.
  - (vi) An evaluation of the adequacy of the designed manure storage structure using the most recent version of the Soil Plant Air Water (SPAW) Hydrology Tool. The evaluation must include all inputs to SPAW including but not limited to daily precipitation, temperature, and evaporation data for the previous 100 years, user-specified soil profiles representative of the CAFO's land application areas, planned crop rotations consistent with the CAFO's Nutrient Management Plan, and the final modeled result of no overflows from the designed open manure storage structure. For those CAFOs where 100 years of local weather data for the CAFO's location is not available, CAFOs may use a simulation with a confidence interval analysis conducted over a period of 100 years. The Director may approve equivalent evaluation and simulation procedures.
  - (vii) The Director may waive the requirement of (a)(1)(vi) for a site-specific evaluation of the designed manure storage structure and instead authorize a CAFO to use a technical evaluation developed for a class of specific facilities within a specified geographical area.
  - (viii) Waste management and storage facilities designed, constructed, operated, and maintained consistent with the analysis conducted in paragraphs (a)(1)(i) through (a)(1)(vii) of this section and operated in accordance with the additional measures and records required by § 412.47(a) and (b), will fulfill the requirements of this section.
  - (ix) The Director has the discretion to request additional information to support a request for effluent limitations based on a site-specific open surface manure storage structure.
- (2) The production area must be operated in accordance with the additional measures required by § 412.47(a) and (b).
- (3) Provisions for upset/bypass, as provided in 40 CFR 122.41(m)-(n), apply to a new source subject to this provision.
- (b) **For CAFO land application areas:** the CAFO shall attain the same limitations and requirements as § 412.43(b)(1).
- (c) The CAFO shall attain the limitations and requirements of this paragraph as of the date of permit coverage.
- (d) Any source subject to this subpart that commenced discharging after April 14, 1993, and prior to April 14, 2003, which was a new source subject to the standards specified in § 412.15, revised as of July 1, 2002, must continue to achieve those standards for the applicable time period specified in 40 CFR 122.29(d)(1). Thereafter, the source must achieve the standards specified in § 412.43(a) and (b).

- (e) Any source subject to this subpart that commenced discharging after April 14, 2003, and prior to January 20, 2009, which was a new source subject to the standards specified in § 412.46(a) through (d) in the July 1, 2008, edition of 40 CFR part 439, must continue to achieve those standards for the applicable time period specified in 40 CFR 122.29(d)(1).

*[68 FR 7269, Feb. 12, 2003, as amended at 73 FR 70485, Nov. 20, 2008]*

**§ 412.47 Additional measures.**

- (a) Each CAFO subject to this subpart must implement the requirements of § 412.37(a).
- (b) Each CAFO subject to this subpart must comply with the record-keeping requirements of § 412.37(b).
- (c) Each CAFO subject to this subpart must comply with the record-keeping requirements of § 412.37(c).