

**SUBCHAPTER B: CONCENTRATED ANIMAL FEEDING OPERATIONS**

**§§321.31 - 321.47**

**Effective March 15, 2007**

**§321.31. Manure, Litter, and Wastewater Discharge and Air Emission Limitations.**

(a) There shall be no discharge or disposal of manure, litter, or wastewater from an animal feeding operation (AFO) into or adjacent to waters in the state, except in accordance with an individual water quality permit issued by the commission, or a concentrated animal feeding operation (CAFO) general permit or other authorization issued or adopted by the commission. Manure, litter, and wastewater generated by an AFO under this subchapter shall be retained and utilized in an appropriate and beneficial manner as provided by commission rules, orders, authorizations, CAFO general permits, or individual water quality permits.

(b) AFOs shall be operated in such a manner as to prevent the creation of a nuisance or a condition of air pollution as mandated by Texas Health and Safety Code, Chapter 341 and Chapter 382.

Adopted June 23, 2004

Effective July 15, 2004

**§321.32. Definitions.**

All definitions in Texas Water Code (TWC), Chapter 26 and Chapter 3 and Chapter 305 of this title (relating to Definitions and Consolidated Permits) shall apply to this subchapter and are incorporated by reference. The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) **Agronomic rates** - The land application of manure, litter, or wastewater at rates of application in accordance with a plan for nutrient management designed to enhance soil productivity and provide the crop or forage growth with needed nutrients for optimum health and growth.

(2) **Air contaminant** - Particulate matter, radioactive material, dust, fumes, gas, mist, smoke, vapor, or odor or any combination thereof produced by processes other than natural. Water vapor is not an air contaminant.

(3) **Animal feeding operation (AFO)** - A lot or facility (other than an aquatic animal production facility) where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and the animal confinement areas do not sustain crops, vegetation, forage growth, or postharvest residues in the normal growing season over any portion of the lot or facility. Two or more AFOs under common ownership are a single AFO if they adjoin each other, or if they use a common area or system for beneficial use of wastes. A land management unit is not part of an AFO.

(4) **Aquifer** - A saturated permeable geologic unit that can transmit, store, and yield to a well, the quality and quantities of groundwater sufficient to provide for a beneficial use. An aquifer

can be composed of unconsolidated sands and gravels, permeable sedimentary rocks such as sandstones and limestones, and/or heavily fractured volcanic and crystalline rocks. Groundwater within an aquifer can be confined, unconfined, or perched.

(5) **Area land use map** - A map that identifies property lines, permanent odor sources, and distances and direction to any occupied residence or business structure, school (including associated recreational areas), permanent structure containing a place of worship, or public park within a one-mile radius of the permanent odor sources at the AFO. The map shall include the north arrow, scale of map, buffer distances, and date that the map was generated and the date that the distances were verified.

(6) **Beneficial use** - Application of manure, litter, or wastewater to land in a manner that does not exceed the agronomic need or rate for a cover crop. Application of manure or wastewater on the land at a rate below or equal to the optimal agronomic rate is considered a beneficial use.

(7) **Best management practices (BMPs)** - The schedule of activities, prohibitions of practices, maintenance procedures, and other management and conservation practices to prevent or reduce the pollution of water in the state. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge, land application, or drainage from raw material storage.

(8) **Catastrophic conditions** - Conditions that cause structural or mechanical damage to the AFO from natural events including high winds, tornados, hurricanes, or other natural disasters, other than rainfall events.

(9) **Certified nutrient management specialist** - An organization in Texas or an individual who is currently certified as a nutrient management specialist through a United States Department of Agriculture-Natural Resources Conservation Service recognized certification program .

(10) **Chronic or catastrophic rainfall event** - A series of rainfall events that do not provide opportunity for dewatering a retention control structure and that are equivalent to or greater than the design rainfall event or any single rainfall event that is equivalent to or greater than the design rainfall event.

(11) **Certified water quality management plan** - A site-specific plan for agricultural or silvicultural lands that includes appropriate land treatment practices, production practices, management measures, technologies, or combinations thereof that when implemented, will achieve a level of pollution prevention or abatement determined by the Texas State Soil and Water Conservation Board, in consultation with the local Soil and Water Conservation District, to be consistent with state water quality standards.

(12) **Comprehensive Nutrient Management Plan (CNMP)** - A resource management plan containing a grouping of conservation practices and management activities that, when implemented in a conservation system, will help ensure that both agricultural production goals are achieved, and

natural resource concerns dealing with nutrient and organic by-products and their adverse impacts on water quality are minimized.

(13) **Concentrated animal feeding operation (CAFO)** - Any animal feeding operation (AFO) defined as follows:

(A) **Large CAFO** - Any AFO that stables or confines and feeds or maintains for a total of 45 days or more in any 12-month period equal to or more than the numbers of animals specified in any of the following categories:

(i) 1,000 cattle other than mature dairy cattle or veal calves. Cattle includes, but is not limited to, heifers, steers, bulls, and cow/calf pairs;

(ii) 1,000 veal calves;

(iii) 700 mature dairy cattle (whether milkers or dry cows);

(iv) 2,500 swine weighing more than 55 pounds or 10,000 swine weighing less than 55 pounds;

(v) 500 horses;

(vi) 10,000 sheep or lambs;

(vii) 55,000 turkeys;

(viii) 125,000 chickens (other than laying hens, if the operation does not use a liquid waste handling system);

(ix) 30,000 laying hens or broilers (if a liquid manure handling system), or 82,000 laying hens (if the operation does not use a liquid manure handling system); or

(x) 5,000 ducks (a liquid manure handling system), or 30,000 ducks (if the operation does not use a liquid manure handling system);

(B) **Medium CAFO** - Any AFO with the following number of animals that discharges pollutants into water in the state either through a man-made ditch, flushing system, or other similar man-made device, or directly into water in the state that originates outside of and passes over, across, or through the facility or otherwise comes into direct contact with animals confined in the operation:

(i) 300 to 999 cattle other than mature dairy cattle or veal calves. Cattle includes, but is not limited to, heifers, steers, bulls, and cow/calf pairs;

- (ii) 200 to 699 mature dairy cattle (whether milking or dry cows);
- (iii) 300 to 999 veal calves;
- (iv) 750 to 2,499 swine each weighing 55 pounds or more, or 3,000 to 9,999 swine each weighing less than 55 pounds;
- (v) 150 to 499 horses;
- (vi) 3,000 to 9,999 sheep or lambs;
- (vii) 16,500 to 54,999 turkeys;
- (viii) 37,500 to 124,999 chickens (other than laying hens and other than a liquid manure handling system);
- (ix) 9,000 to 29,999 laying hens or broilers (if a liquid manure handling system), or 25,000 to 81,999 laying hens (if other than a liquid manure handling system); or
- (x) 1,500 to 4,999 ducks (if a liquid manure handling system), or 10,000 to 29,999 ducks (if other than a liquid manure handling system).

(C) **Small CAFO** - An AFO that is designated by the executive director as a CAFO because it is a significant contributor of pollutants into or adjacent to water in the state and is not a large or medium CAFO.

(D) **State-only CAFO** - An AFO that falls within the range of animals in subparagraph (B) of this paragraph and that is either located in the dairy outreach program areas or designated by the executive director as a CAFO because it is a significant contributor of pollutants into water in the state. A state-only CAFO is authorized under state law.

(14) **Control facility** - Any system used for the collection and retention of manure, litter, or wastewater on the premises until their ultimate use or disposal. This includes all collection ditches, conduits, and swales for the collection of runoff and wastewater, and all retention control structures.

(15) **Crop removal** - The amount of nutrients contained in and removed by harvest of the proposed crop.

(16) **Crop requirement** - The amount of nutrients that must be present in the soil in order to ensure that the crop nutrient needs are met, while accounting for nutrients that may become unavailable to the crop due to adsorption to soil particles or other natural causes.

(17) **Dairy outreach program areas** - The area including all of the following counties: Erath, Bosque, Hamilton, Comanche, Johnson, Hopkins, Wood, and Rains.

(18) **Edwards Aquifer** - As defined in §213.3 of this title (relating to Definitions).

(19) **Edwards Aquifer recharge zone** - As defined in §213.3 of this title (relating to Definitions).

(20) **Groundwater** - Subsurface water that occurs below the water table in saturated soils and geologic formations, and is other than underflow of a stream or an underground stream.

(21) **Historical waste application field** - An area of land located in a major sole-source impairment zone that at any time since January 1, 1995, has been owned or controlled by an operator of a concentrated animal feeding operation (CAFO), and on which agricultural waste or wastewater from a CAFO has been applied.

(22) **Hydrologic connection** - The connection and exchange between surface water and groundwater.

(23) **Lagoon** - A retention control structure used for the biological treatment of liquid organic wastes. Lagoons can be aerobic, anaerobic, or facultative depending on their design and can be used in a series to produce a higher quality effluent. Treatment volume must be included in the lagoon design.

(24) **Land application** - The act of applying manure, litter, or wastewater associated with the animal feeding operation including distribution to, or incorporation into, the soil mantle primarily for beneficial use purposes.

(25) **Land management unit (LMU)** - An area of land owned, operated, controlled, rented, or leased by an animal feeding operation (AFO) owner or operator to which manure, litter, or wastewater from the AFO is or may be applied. This includes land associated with a single center pivot system or a tract of land on which similar soil characteristics exist and similar management practices are being used. LMUs include historical waste application fields. The term "land management unit" does not apply to any lands not owned, operated, controlled, rented, or leased by the AFO operator for the purpose of off-site land application of manure, wherein the manure is given or sold to others for land application.

(26) **Letter of consent** - A document signed by the owner or the authorized legal representative of the owner(s) of an occupied residence or business structure, school (including associated recreational areas), permanent structure containing a place of worship, or public park, or a document signed by the governmental entity or the authorized legal representative of the entity responsible for the operation of a school or public park. The document specifically consents to location and operation of permanent odor sources of an animal feeding operation within the minimum buffer

distance required under §321.43 of this title (relating to Air Standard Permit for Animal Feeding Operations (AFO)).

(27) **Liner** - Any barrier in the form of a layer; membrane; or blanket; naturally existing, constructed, or installed, to prevent a significant hydrologic connection between liquids contained in retention control structures and water in the state.

(28) **Liquid waste handling system** - A system in which freshwater or wastewater is used for transporting and land applying waste.

(29) **Major sole-source impairment zone** - A watershed that contains a reservoir:

(A) that is used by a municipality as a sole source of drinking water supply for a population, inside and outside of its municipal boundaries, of more than 140,000; and

(B) which at least half of the water flowing into is from a source that, on September 1, 2001, is on the list of impaired state waters adopted by the commission as required by 33 United States Code, §1313(d), as amended:

(i) at least in part because of concerns regarding pathogens and phosphorus; and

(ii) for which the commission, at some time, prepared and submitted a total maximum daily load standard.

(30) **Manure** - Feces and/or urine excreted by animals. Manure includes manure, bedding, compost, feed, and other raw materials commingled with feces and/or urine.

(31) **New source** - As defined in §305.2 of this title (relating to Definitions). The criteria for new source determination are located in §305.534(b) of this title (relating to New Sources and Dischargers).

(32) **Nuisance** - Any discharge of air contaminant(s) including, but not limited to, odors of sufficient concentration and duration that are or may tend to be injurious to or that adversely affects human health or welfare, animal life, vegetation, or property, or that interferes with the normal use and enjoyment of animal life, vegetation, or property.

(33) **Nutrient management plan (NMP)** - The Natural Resources Conservation Service Practice Standard Code 590 plan. A plan to address the amount, source, placement, form, and timing of the application of all nutrients and soil amendments.

(34) **Nutrient utilization plan (NUP)** - A plan developed to evaluate and address site-specific characteristics of a land management unit to ensure that the beneficial use of manure, litter, or wastewater is conducted in a manner to prevent adverse impacts on water quality.

(35) **One-hundred-year, 24-hour rainfall event** - The maximum rainfall event with a probable recurrence interval of once in 100 years, with a duration of 24 hours, as defined by the National Weather Service in Technical Paper Number 40, "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments; or equivalent regional or state rainfall information.

(36) **One-hundred-year flood plain** - Any land area that is subject to a 1.0% or greater chance of flooding in any given year from any source.

(37) **Open lot** - Pens or similar confinement areas with dirt, concrete, or other paved or hard surfaces wherein livestock or poultry are substantially or entirely exposed to the outside environment except for small portions of the total confinement area affording protection by windbreaks or small shed-type shade areas and that do not sustain crops, vegetation, forage growth, or postharvest residues in the normal growing season. For the purposes of this subchapter, the term "open lot" is synonymous with the terms "dirt lot" or "dry lot," for livestock or poultry, as these terms are commonly used in the agricultural industry.

(38) **Operator** - The owner or person responsible for the overall operation of a facility or part of a facility, subject to the provisions of this subchapter.

(39) **Permanent odor sources** - Those odor sources that may emit odors 24 hours per day. For the purposes of this subchapter, permanent odor sources include, but are not limited to, pens, confinement buildings, lagoons, retention control structures, manure stockpile areas, and solid separators. For the purposes of this subchapter, permanent odor sources shall not include any feed handling facilities, land application equipment, or land management units.

(40) **Permittee** - Any person issued an individual permit or order or authorized under a general permit.

(41) **Pesticide** - A substance or mixture of substances intended to prevent, destroy, repel, or mitigate any pest, or any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

(42) **Playa** - A flat-floored, clayey bottom of an undrained basin that is located in an arid or semi-arid part of the state, that is naturally dry most of the year, and that collects runoff from rain, but is subject to rapid evaporation.

(43) **Process-generated wastewater** - Any water directly or indirectly used or generated by the operation of an animal feeding operation, including spillage or overflow from animal or poultry watering systems that comes in contact with waste; water used or generated by washing, cleaning, or flushing pens, barns, and manure pits; direct contact swimming, washing, or spray cooling of animals; dust control; and water used in or resulting from the production of animals or poultry or direct products (e.g., milk, meat, or eggs).

(44) **Production area** - That part of an animal feeding operation that includes, but is not limited to, the animal confinement area, manure storage area, raw materials storage area, and control facilities.

(45) **Protection zone** - The area within the watershed of a sole-source surface drinking water supply that is:

(A) within two miles of the normal pool elevation, as shown on a United States Geological Survey (USGS) 7 1/2-minute quadrangle topographic map, of a sole-source drinking water supply reservoir;

(B) within two miles of that part of a perennial stream that is:

(i) a tributary of a sole-source drinking water supply; and

(ii) within three linear miles upstream of the normal pool elevation, as shown on a USGS 7 1/2-minute quadrangle topographic map, of a sole-source drinking water supply reservoir; or

(C) within two miles of a sole-source surface drinking water supply river, extending three linear miles upstream from the sole-source water supply intake point.

(46) **Recharge feature** - Those natural or artificial features either on or beneath the ground surface at the site under evaluation that provide or create a significant hydrologic connection between the ground surface and the underlying groundwater within an aquifer. Significant artificial features include, but are not limited to, wells and excavation or material pits. Significant natural hydrologic connections include, but are not limited to: faults, fractures, sinkholes, or other macro pores that allow direct surface infiltration; a permeable or shallow soil material that overlies an aquifer; exposed geologic formations that are identified as an aquifer; or a water course bisecting an aquifer.

(47) **Retention control structure (RCS)** - Any basins, ponds, pits, tanks, conveyances, and lagoons used to store and/or treat manure, litter, wastewater, and sludge. This RCS does not include conveyance systems such as irrigation piping or ditches that are designed and maintained to convey but not store any manure, litter, or water.

(48) **Significant concentrated animal feeding operation (CAFO) expansion** - Any change to a CAFO that increases the waste production at the CAFO by more than 50%, above the maximum operating capacity stated in the notice of intent, during the term of the general permit.

(49) **Sludge** - Solid, semi-solid, or slurry waste generated during the treatment of and/or storage of any wastewater. The term includes material resulting from treatment, coagulation, or sedimentation of waste in a retention control structure.

(50) **Soil Plant Air and Water (SPAW) Field Pond Hydrology** - SPAW is a Natural Resources Conservation Service (NRCS) water budgeting tool for farm fields, ponds, and inundated



wetlands. The SPAW model may be used to perform daily hydrologic water budgeting using the NRCS Runoff Curve Number method.

(51) **Sole-source surface drinking water supply** - A body of surface water that is identified as a public water supply in §307.10 of this title (relating to Appendices A - E) and is the sole source of supply of a public water supply system, exclusive of emergency water connections.

(52) **Technical service provider** - An individual, entity, or public agency certified and placed on an approved list by the Natural Resources Conservation Service (NRCS) to provide technical services to program participants or the NRCS.

(53) **Twenty-five-year, ten-day rainfall event** - The maximum rainfall event with a probable recurrence interval of once in 25 years, with a duration of ten days, as defined by the National Weather Service in Technical Paper Number 49 U.S. Weather Bureau and USDA, Two-to-Ten Day Precipitation for Return Periods of 2 to 100 Years in the Contiguous United States (1964)" , and subsequent amendments; or equivalent regional or state rainfall information.

(54) **Twenty-five-year, 24-hour rainfall event** - The maximum rainfall event with a probable recurrence interval of once in 25 years, with a duration of 24 hours, as defined by the National Weather Service in Technical Paper Number 40, "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments; or equivalent regional or state rainfall information.

(55) **United States Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS)** - An agency of the United States Department of Agriculture that provides assistance to agricultural producers for planning and installation of conservation practices through conservation and technical programs.

(56) **Waste** - Manure (feces and urine), litter, bedding, or feedwaste from animal feeding operations.

(57) **Wastewater** - Any water, including process-generated wastewater and precipitation, that comes into contact with any manure, litter, bedding, or any raw material or intermediate or final material or product used in or resulting from the production of animals or poultry or direct products (e.g., milk, meat, or eggs).

(58) **Water in the state** - Groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico, inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

(59) **Well** - Any artificial excavation into and/or below the surface of the earth whether in use, unused, abandoned, capped, or plugged that may be further described as one or more of the following:

(A) an excavation designed to explore for, produce, capture, recharge, or recover water, any mineral, compound, gas, or oil from beneath the land surface;

(B) an excavation designed for the purpose of monitoring any of the physical or chemical properties of water, minerals, geology, or geothermal properties that exist or may exist below the land surface;

(C) an excavation designed for the injection or placement of any liquid, solid, gas, vapor, or any combination of liquid, solid, gas, or vapor into any soil or geologic formation below the land surface; or

(D) an excavation designed to lower a water or liquid surface below the land surface either temporarily or permanently for any reason.

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Effective July 15, 2004

**§321.33. Applicability and Required Authorizations.**

(a) Permit required. All concentrated animal feeding operations (CAFOs) are point sources that require owners and operators to seek and obtain authorization under a water quality general permit or individual permit, except as provided in subsection (f) of this section. CAFO owners and operators have a duty to seek coverage as described in this section.

(b) Individual permit required. A discharge from the following CAFOs may be authorized only under an individual water quality permit in accordance with §321.34 of this title (relating to Permit Applications). Except as provided by subsections (e) and (f) of this section, any operator who is required to obtain an individual water quality permit under this subsection may not commence physical construction and/or operation of any new control facilities until an individual water quality permit is issued for that CAFO, or unless otherwise authorized by the commission in accordance with Texas Water Code (TWC), §26.027(c).

(1) Any CAFO located within one mile of coastal natural resource areas as defined by Texas Natural Resources Code, §33.203, unless the CAFO was authorized by the commission prior to January 10, 1997.

(2) Any dairy CAFO located in a major sole-source impairment zone.

(3) Any CAFO where, on the date the executive director determines that the application is administratively complete, any part of the production area of the CAFO is located or proposed to be located within the protection zone of a sole-source surface drinking water supply, in

Practice Act and the licensing and registration boards under these acts. The plan must prevent impacts to an aquifer from any recharge features present. The plan must include at least one of the following:

(A) provisions for the installation of the necessary and appropriate protective measures for each located recharge feature, including impervious cover, berms, buffer zones, or other equivalent protective measures, on the production area and land management units; or

(B) except as specified in §321.41 of this title (relating to Special Requirements for Discharges to a Playa), submission of a detailed groundwater monitoring plan covering all affected facilities and land application areas. At a minimum, the groundwater monitoring plan shall specify procedures to annually collect a groundwater sample from representative wells, have each sample analyzed for chlorides, nitrates, and total dissolved solids, and compare those values with background values for each well; or

(C) provisions for any other similar method or approach demonstrated by the applicant to be protective of any associated recharge feature and approved by the commission; and

(5) any information required by §321.43 of this title (relating to Air Standard Permit for Animal Feeding Operations (AFOs)) to document compliance with the air standard permit.

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**§321.35. Fees.**

(a) Application fee. Each applicant for an individual water quality permit shall pay an application fee as required by §305.53 of this title (relating to Application Fee).

(b) Annual assessment fees. Each permittee shall pay a consolidated annual fee as required by Chapter 21 of this title (relating to Water Quality Fees).

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**§321.36. Texas Pollutant Discharge Elimination System General Requirements for Concentrated Animal Feeding Operations (CAFOs).**

(a) Applicability. These requirements apply to a concentrated animal feeding operation (CAFO) general permit, individual water quality permit, or other authorization issued by the commission for a large CAFO, medium CAFO, and small CAFO subject to the requirements of the Texas Pollutant Discharge Elimination System.

(b) Permits. A CAFO shall comply with §305.125 of this title (relating to Standard Permit Conditions) and all applicable permit conditions contained in commission rules. Requirements to provide for and ensure compliance with standards set by the rules of the commission and the laws of Texas shall be determined and included in an individual water quality permit on a case-by-case basis to

reflect the best method for attaining such compliance. Each permit shall contain terms and conditions as the commission determines necessary to protect human health and safety, and the environment.

(c) Control facility. A CAFO shall ensure that the control facility is designed, constructed, operated, and maintained to contain all manure, litter, and process wastewater including the runoff and direct precipitation from the design rainfall event as described in §321.37 of this title (relating to Effluent Limitations for Discharges from Production Areas).

(d) Nutrient management plan (NMP).

(1) On or before July 31, 2007, the operator of a CAFO shall develop and implement an NMP certified in accordance with the Natural Resources Conservation Service Code 590 Practice Standard. The plan shall include site-specific nutrient management practices that ensure appropriate agricultural utilization of nutrients in the manure, litter, or wastewater.

(2) The CAFO operator shall create, maintain for five years, and make available to the executive director, upon request, a copy of the site-specific NMP and documentation of the implementation.

(3) Compliance with the requirements of this section and applicable requirements for the design and operation of a control facility, as described in §321.38 and §321.39 of this title (relating to Control Facility Design Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs) and Control Facility Operational Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs)) constitute compliance with the provisions of 40 Code of Federal Regulations (CFR) §122.42(e)(1)(i) - (ix).

(e) Manure, litter, and wastewater management.

(1) At least one representative sample of wastewater, if applicable, and one representative sample of manure/litter shall be collected and analyzed each year for total nitrogen, total phosphorus, and total potassium. The results of these analyses shall be used in determining application rates for manure in conjunction with analysis of wastewater.

(2) If manure, litter, or wastewater is sold or given to other persons for off-site land application or disposal, the CAFO operator shall maintain a log of:

(A) the date of removal from the CAFO;

(B) the name and address of the recipient; and

(C) the amount, in wet tons, dry tons, cubic yards, acre-inches, acre-feet, or gallons of manure, litter, or wastewater.

(3) A single pickup truck load need not be recorded.

(4) The operator shall make the most recent nutrient analysis available to any recipient of manure, litter, or wastewater.

(f) Buffers for land management units (LMUs). A sinkhole shall be protected with a 100-foot buffer from manure, litter, and wastewater application. Alternatively, the CAFO may substitute a 35-foot wide vegetative buffer around a sinkhole where alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent to or better than the reductions that would be achieved by the 100-foot buffer.

(g) Soil sampling and testing.

(1) Initial sampling. Before commencing wastewater irrigation or manure/litter application on land owned, operated, controlled, rented, or leased by the CAFO operator, the operator shall collect and analyze at least one representative soil sample from each of the LMUs according to the following procedures. The CAFO operator is not required to collect soil samples or report on LMUs where manure, litter, or wastewater has not been applied during the preceding year. The CAFO operator must comply with the initial sampling requirement before resuming land application to such LMUs.

(2) Annual sampling. The CAFO operator shall annually collect soil samples for each LMU owned, operated, controlled, rented, or leased by the CAFO operator where manure, litter, or wastewater was applied during the preceding year.

(3) Sampling procedures. The operator shall employ sampling procedures using accepted techniques of soil science for obtaining representative samples and analytical results.

(A) Samples shall be collected using approved procedures described in the agency's publication "Soil Sampling for Nutrient Utilization Plans (RG-408)."

(B) Samples shall be collected by the operator or its designee and analyzed by a soil testing laboratory within the same 45-day time frame each year, except when crop rotations or inclement weather require a change in the sampling time frame.

(C) One composite sample shall be obtained for each soil depth zone per uniform soil type (soils with the same characteristics and texture) within each LMU.

(D) Composite samples shall be comprised of 10 - 15 randomly sampled cores obtained from each of the following soil depth zones:

(i) Zone 1: zero to six inches (for an LMU where the manure is incorporated directly into the soil) or zero to two inches (for an LMU where the manure is not incorporated into the soil). Wastewater is considered to be incorporated. If a zero to two-inch sample is required under this subsection, then an additional sample from the two to six-inch soil depth zone shall be obtained in accordance with the provisions of this section; and

(ii) Zone 2: six to 24 inches.

(4) Laboratory analysis. The CAFO operator shall have a laboratory analysis of the soil samples performed for physical and chemical parameters to include: nitrate as nitrogen in parts per million (ppm), extractable phosphorus (ppm, using Mehlich III with Inductively Coupled Plasma (ICP)), potassium (extractable, ppm); sodium (extractable, ppm); magnesium (extractable, ppm); calcium (extractable, ppm); soluble salts (ppm) or electrical conductivity (deciSiemens/meter (dS/m) - determined from extract of 2:1 volume to volume (v/v) water/soil mixture); and soil water pH.

(h) Required inspections. The CAFO operator shall perform the routine inspections described in paragraphs (1) and (2) of this subsection to determine preventive maintenance and repair needs. Inspections shall include visual inspections and equipment testing to determine conditions that could cause breakdowns or failures resulting in discharge of pollutants to water in the state or the creation of a nuisance condition.

(1) CAFO operators shall conduct a daily inspection of all water lines, including drinking water and cooling water lines, located within the drainage area of the retention control structure (RCS).

(2) CAFO operators shall conduct a weekly inspection of all control facilities and equipment used during that week for land application of manure, litter, or wastewater. An inspection must include all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to each RCS. The weekly inspection will note the level of liquid in each RCS as indicated by the pond marker required by subsection (k) of this section.

(i) Recordkeeping.

(1) The CAFO operator shall draft and maintain a report for five years in the pollution prevention plan to document the inspections and to report that appropriate action has been taken in response to deficiencies identified during any inspection required by subsection (h) of this section. A CAFO operator shall correct all the deficiencies within 30 days or shall document the factors preventing immediate correction.

(2) The CAFO operator shall maintain records describing mortality management practices implemented in accordance with subsection (l) of this section.

(3) The CAFO operator shall maintain documentation describing the sources of information, assumptions, and calculations used in determining the appropriate volume capacity and structural features of each RCS, including embankments and liners.

(4) The CAFO operator shall maintain documentation describing a discharge into water in the state including the date, time, volume of overflow, a copy of the notification(s) provided to the regional office, and sample analysis results associated with an RCS discharge.

(5) The CAFO operator shall comply with the land application area recordkeeping requirements identified in 40 CFR §412.37 and §412.47. Compliance with §321.46 of this title (relating to Concentrated Animal Feeding Operation (CAFO) Pollution Prevention Plan, Site Evaluation, Recordkeeping, and Reporting) constitutes compliance with this requirement.

(j) Annual report required. An annual report shall be submitted to the executive director's Office of Compliance and Enforcement, Enforcement Division, by February 15 of each year (for the reporting period of January 1 to December 31 of the previous year) from each CAFO authorized under a CAFO general permit or through an individual water quality permit in accordance with this subchapter. The report shall be submitted on forms prescribed by the executive director and shall include, but is not limited to, the following information:

- (1) number and type of animals, whether in open confinement or housed under roof;
- (2) estimated total manure, litter, and wastewater generated during the reporting period;
- (3) total manure, litter, and wastewater land applied during the reporting period;
- (4) total manure, litter, and wastewater transferred to other persons during the reporting period;
- (5) total number of acres for land application under the control of the CAFO operator, including both the acres included in the NMP for the CAFO and the total number of acres used during the reporting period for land application;
- (6) summary of discharges of manure, litter, or wastewater from the production area that occurred during the reporting period including dates, times, and approximate volume;
- (7) a statement indicating that the NMP under which the CAFO is operating was developed and approved by a certified nutrient management specialist;
- (8) a copy of the initial soil analysis for each LMU, regardless of whether manure, litter, or wastewater has been applied;
- (9) soil monitoring reports of all soil samples collected in accordance with the requirements of this subchapter;
- (10) groundwater monitoring reports; and
- (11) any other information requested by the executive director.

(k) Pond marker. A permanent pond marker that identifies the level of the design rainfall event shall be installed and maintained in the RCS. In addition, if the operator must maintain a minimum treatment volume in accordance with §321.43(j)(3)(B) of this title (relating to Air Standard Permit for Animal Feeding Operations (AFOs)), the pond marker must identify this level. The pond marker shall be visible from the top of the levee.

(l) Carcass disposal. Carcasses shall be collected within 24 hours of death and properly disposed of within three days of death in accordance with Texas Water Code, Chapter 26; Texas Health and Safety Code, Chapter 361; and Chapter 335 of this title (relating to Industrial Solid Waste and Municipal Hazardous Waste) unless otherwise provided for by the commission. Animals must not be disposed of in any liquid manure or process wastewater system. Disposal of diseased animals shall also be conducted in a manner that prevents a public health hazard in accordance with Texas Agriculture Code, §161.004, and 4 TAC §31.3 and §58.31(b).

(m) Closure required. A closure plan must be developed by a CAFO operator when an RCS will no longer be used and when the CAFO ceases or plans to cease operation. For closure of a CAFO, a closure plan must be developed and submitted to the executive director when operation of the CAFO or an individual RCS terminates. The closure plan for the RCS must, at a minimum, be developed using standards contained in the NRCS Practice Standard Code 360 (Closures of Waste Impoundments), as amended, and using the guidelines contained in the Texas Cooperative Extension/NRCS publication #B-6122 (Closure of Lagoons and Earthen Manure Storage Structures), as amended. A CAFO shall maintain or renew its existing authorization and maintain compliance with the requirements of this subchapter until the facility has been closed.

Adopted April 12, 2006

Effective May 3, 2006

**§321.37. Effluent Limitations for Discharges from Production Areas.**

(a) The following requirements will be applied in a permit or authorization issued by the commission, as applicable to animal feeding operations.

(b) The effluent limitations promulgated by the United States Environmental Protection Agency applicable to duck concentrated animal feeding operations (CAFOs), including 40 Code of Federal Regulations (CFR) §§412.20 - 412.26, as amended, are adopted by reference.

(c) Except as provided by this section, there shall be no discharge of manure, litter, or wastewater from a poultry (chickens and turkeys), swine, or veal calf CAFO production area that is subject to the new source performance standards in 40 CFR §412.46. The operator of a poultry (chickens and turkeys), swine, or veal calf CAFO subject to the new source performance standards in 40 CFR §412.46 shall design, construct, operate, and maintain retention control structures (RCSs) to contain all wastewater including the runoff and direct precipitation from the 100-year, 24-hour rainfall event for the location of the facility as required by the federal effluent guidelines.

(d) Except as provided by this section, for all other CAFOs, there shall be no discharge of manure, litter, or wastewater from a CAFO production area. The operator of the CAFO shall design,



construct, operate, and maintain RCSs to contain all wastewater including the runoff and direct precipitation from the 25-year, 24-hour rainfall event for the location of the facility.

(e) A discharge that is the result of a chronic or catastrophic rainfall event, or the result of catastrophic conditions, from an RCS that has been properly designed, constructed, operated, and maintained is allowed.

(f) Voluntary alternative performance standards may be established in an individual water quality permit for a cattle (other than veal calves) or dairy CAFO, when requested by a permit applicant. These standards may be established as effluent limitations in lieu of the requirements of subsection (d) of this section, so long as they are not in conflict with other requirements of this subchapter or other requirements of the commission. Voluntary alternative performance standards shall be consistent with the requirements of 40 CFR §412.31(a)(2).

(g) Voluntary superior environmental performance standards may be established in an individual water quality permit for a swine, poultry (chickens and turkeys), or veal calf CAFO, when requested by a permit applicant. These standards may be established as effluent limitations in lieu of the requirements of subsection (c) of this section, so long as they are not in conflict with other requirements of this subchapter or other requirements of the commission. Voluntary superior environmental performance standards shall be consistent with the requirements of 40 CFR §412.46(d).

Adopted June 23, 2004

Effective July 15, 2004

**§321.38. Control Facility Design Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs).**

(a) Purpose. The purpose of this section is to describe the control facility design requirements that apply to concentrated animal feeding operation (CAFO) general or individual water quality permits or other authorizations under this subchapter.

(b) Well buffers. Except as provided by subsection (c) of this section, the control facility of an animal feeding operation (AFO) shall be separated from a well by ensuring a minimum buffer zone, as described in this subsection. An AFO shall not locate a new retention control structure (RCS) or holding pen within the required well buffer zones:

- (1) public drinking water supply wells - 500 feet;
- (2) drinking water wells used for private water supply - 150 feet; or
- (3) water wells used exclusively for agriculture irrigation - 100 feet.

(c) Buffer variance. A CAFO operating under an existing authorization may continue the operation and use of any existing holding pens and RCSs located within the required well buffer zones provided they are in accordance with the recharge feature evaluation and certification required under

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Effective July 15, 2004

**§321.40. Concentrated Animal Feeding Operation (CAFO) Land Application Requirements.**

(a) The purpose of this section is to describe the land application requirements that apply to concentrated animal feeding operation (CAFO) general or individual water quality permits or other authorizations allowed by this subchapter.

(b) The land application of manure, litter, or wastewater at agronomic rates and hydrologic needs shall not be considered surface disposal and is not prohibited.

(c) Manure, litter, or wastewater may be applied to the areas in the 100-year flood plain at agronomic rates not to exceed the hydrologic needs of the crop.

(d) Discharge of manure, litter, or wastewater from the land management unit (LMU) is prohibited and shall not cause or contribute to a violation of surface water quality standards, contaminate groundwater, or create a nuisance condition.

(e) Irrigation practices shall be managed so as to minimize ponding or puddling of wastewater on the site, prevent tailwater discharges to waters in the state, and prevent the occurrence of nuisance conditions.

(f) Land application shall not occur when the ground is frozen or saturated or during rainfall events unless in accordance with §321.39(b)(3) of this title (relating to Control Facility Operational Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs)) or as approved by the commission.

(g) The CAFO operator shall not locate a new LMU within the required well buffer zones identified in §321.38(b) of this title (relating to Control Facility Design Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs)). An exception to the full well buffer zone for a private drinking water well or a water well used exclusively for agricultural irrigation may be approved by the executive director if a licensed Texas professional engineer or licensed Texas professional geoscientist provides accurate documentation showing that additional wellhead protective measures will be or have been implemented that will prevent pollutants from entering the well and contaminating groundwater. Additional protective measures may include a sanitary seal, annular seal, a steel sleeve, or surface slab.

(h) Vegetative buffer strips shall be no less than 100 feet of vegetation to be maintained between manure, litter, or wastewater application areas and water in the state. A buffer is not required for wastewater irrigation when applied by low-pressure, low-profile center pivot irrigation systems in areas of the state where the annual average rainfall is less than 25 inches per year. The CAFO operator shall maintain the buffer strips in accordance with Natural Resources Conservation Service (NRCS) guidelines.

(i) CAFOs introducing wastewater or chemicals to water wellheads for the purpose of irrigation shall install backflow prevention devices in accordance with requirements contained in 16 TAC Chapter 76 (relating to Water Well Drillers and Water Well Pump Installers).

(j) Nighttime application of manure, litter, or wastewater by a CAFO shall be allowed only in areas with no occupied residence(s) within 1/4 mile from the outer boundary of the LMU receiving manure, litter, or wastewater. In areas with an occupied residence within 1/4 mile from the outer boundary of the LMU receiving manure, litter, or wastewater shall only be allowed from one hour after sunrise until one hour before sunset, unless the current occupants of such residences have, in writing, agreed to such nighttime applications.

(k) Any CAFO operator who owns, operates, controls, rents, or leases land where manure, litter, or wastewater from the CAFO is land applied must be in compliance with the deadline and requirements specified in §321.36(d) of this title (relating to Texas Pollutant Discharge Elimination System General Requirements for Concentrated Animal Feeding Operations (CAFOs)). Before this deadline, the operator of any existing CAFO must manage nutrients on LMUs according to all other applicable requirements of this subchapter.

(1) Nutrient requirement. Any land application of manure, litter, and wastewater shall not exceed the nutrients necessary to meet the planned crop requirements. Land application rates of manure, litter, and wastewater shall be based on the total nutrient concentration on a dry weight basis.

(2) Critical phosphorus level. A permit or other authorization shall establish the appropriate threshold for phosphorus in the soil and the requirements to develop the nutrient utilization plan (NUP). If an operator is required to develop a NUP, the operator shall cease land application of manure, litter, or wastewater to the affected area and may resume only after a detailed NUP has been implemented.

(3) NUP. An NMP (Practice Standard 590) certified as meeting the NRCS standard is equivalent to the requirements for a NUP. The NUP, based on crop removal, must be developed and certified by an employee of the NRCS, a nutrient management specialist certified by the NRCS, the Texas State Soil and Water Conservation Board, Texas Cooperative Extension, an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas, or a professional agronomist or soil scientist certified by the Certified Professional Agronomist certified through the certification program of the American Society of Agronomy, a Certified Professional Soil Scientist certified through the certification program of the Soil Science Society of America, or a licensed geoscientist-soil scientist in Texas after approval by the executive director based on a determination by the executive director that another person or entity identified in this paragraph cannot develop the plan in a timely manner. After a NUP is implemented, the operator shall land apply in accordance with the NUP until soil phosphorus is reduced below the critical phosphorus level. Thereafter, the operator of a CAFO shall implement the requirements of the nutrient management plan certified in accordance with §321.36(d) of this title. All other CAFOs must follow the requirements in this section.