

SUBCHAPTER B: CONCENTRATED ANIMAL FEEDING OPERATIONS
§§321.31 - 321.47
Effective July 31, 2014

§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 animal manure, sludge, or wastewater at rates of application in accordance with a plan for nutrient management which will enhance soil productivity and provide the crop or forage growth with needed nutrients for optimum health and growth based upon a realistic yield goal.

(2) 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 post-harvest 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 the beneficial use of manure, sludge, or wastewater. A land management unit is not part of an AFO.

(3) Annual(ly)--Once per calendar year with required events not more than 18 months apart, unless approved in writing by the executive director on a case-by-case basis.

(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 animal feeding operation. 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, sludge, or wastewater to land in a manner that does not exceed the agronomic need or rate for a harvested or cover crop. Application of manure, sludge, 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) Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

(9) Catastrophic conditions--Conditions that cause structural or mechanical damage to the animal feeding operation from natural events including high winds, tornadoes, hurricanes, earthquakes, or other natural disasters, other than rainfall events.

(10) 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, Texas

Certified Crop Advisor's Board or Texas AgriLife Extension Service recognized certification program.

(11) 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.

(12) 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.

(13) 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.

(14) 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, each weighing 55 pounds or more; 10,000 swine, each 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 manure handling system);

(ix) 30,000 laying hens or broilers (if the operation uses 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 (if the operation uses 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 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 with the following number of animals:

(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 if the operation does not use a liquid manure handling system);

(ix) 9,000 to 29,999 laying hens or broilers (if the operation uses a liquid manure handling system), or 25,000 to 81,999 laying hens (if the operation does not use a liquid manure handling system); or

(x) 1,500 to 4,999 ducks (if the operation uses a liquid manure handling system), or 10,000 to 29,999 ducks (if the operation does not use a liquid manure handling system).

(C) Small CAFO--Any 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 located in the dairy outreach program areas or an AFO designated by the executive director as a CAFO because it is a significant contributor of pollutants into or adjacent to water in the state. A state-only CAFO is authorized under state law.

(15) Control facility--Any system used for the collection and retention of manure, sludge, or wastewater at the permitted facility until their ultimate use or disposal. This includes all collection ditches, conduits, and swales for the collection of manure, sludge, or wastewater, and all retention control structures.

(16) Cooling Pond--A shallow man-made structure filled with water for the specific purpose to keep animals cool and promote animal comfort.

(17) Crop removal--The amount of nutrients contained in and removed by harvest of the adopted crop.

(18) 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.

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

(20) Design rainfall event--A design parameter corresponding to precipitation frequency values for a given rainfall duration and return period based on United States Department of Commerce, Weather Bureau, Technical Paper 40 or 49, May 1961.

(21) Dry litter poultry operation--A poultry animal feeding operation that does not use a liquid manure handling system.

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

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

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

(25) 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 manure or wastewater from a CAFO has been applied.

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

(27) Lagoon--A retention control structure used for the biological treatment of liquid organic manure. 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.

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

(29) Land management unit (LMU)--An area of land owned, operated, controlled, rented, or leased by an animal feeding operation (AFO) owner or operator where manure, sludge, 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 where 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, where the manure is given or sold to others for land application.

(30) 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)).

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

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

(33) 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) 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) where the commission has developed and adopted a total maximum daily load.

(34) Manure--Feces and/or urine excreted by livestock and poultry. Manure includes litter, bedding, compost, feed, and other raw materials commingled with feces and/or urine.

(35) 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 New Dischargers).

(36) 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.

(37) Nutrient management plan (NMP)--A plan based on the Natural Resources Conservation Service Practice Standard Code 590, for Texas, to address the amount, rate, source, placement, method of application, and timing of the application of plant nutrients, and soil amendments.

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

(39) 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.

(40) 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.

(41) Operational--The facility is constructed such that animals may be stabled, confined, fed, and maintained in accordance with the permit or authorization. The facility does not have to be operating at the maximum number of animals allowed in the permit or authorization.

(42) 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.

(43) 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.

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

(45) 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. Pesticide includes insecticides, nematicides, rodenticides, fungicides, and herbicides.

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

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

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

(49) 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.

(50) 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.

(51) Retention control structure (RCS)--Any basin, pond, pit, tank, conveyance, or lagoon used to hold, store, or treat manure, wastewater, and sludge. The term RCS does not include conveyance systems such as irrigation piping or ditches that are designed and maintained to convey but not store any manure, or wastewater, nor does it include cooling ponds located in the production area.

(52) Significant expansion of concentrated animal feeding operation (CAFO) --Any change to a CAFO that increases the manure production at the CAFO by more than 50%, above the maximum operating capacity stated in the initial authorization for the facility under TXG920000.

(53) Sludge--Solid, semi-solid, or slurry manure generated during the treatment of or storage of any manure or wastewater. The term includes material resulting from treatment, coagulation, or sedimentation of manure in a retention control structure. Chapter 312 of this title (relating to Sludge Use, Disposal, and Transportation) rules covering sludge do not apply to this subchapter.

(54) 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.

(55) 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.

(56) Substantial change--The following changes to the terms of the Nutrient Management Plan are considered substantial; other changes are considered non-substantial:

(A) changing animal type or authorized head count;

(B) adding Land Management Units or increasing application acreage; and

(C) using a crop or yield goal to determine maximum application rates for manure, sludge or wastewater that is not authorized by the permit or authorization.

(57) 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.

(58) 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 United States Weather Bureau and United States Department of Agriculture, Two-to-Ten Day Precipitation for Return Periods of 2 to 100 Years in the Contiguous United States (1964); or equivalent regional or state rainfall information.

(59) 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; or equivalent regional or state rainfall information.

(60) 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.

(61) Upset--An exceptional incident where there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

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

(63) 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.

(64) Well--Any artificial excavation into 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 to inject or place 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.

Adopted July 2, 2014

Effective July 31, 2014

§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 subsection (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 adopted to be located within the protection zone of a sole-source surface drinking water supply, in accordance with TWC, §26.0286. This paragraph does not apply to a poultry operation that does not use a liquid manure handling system, which is commonly referred to as a dry litter poultry operation.

(4) Any CAFO where any part of the production area or land management units is located in a watershed of a segment listed on the current United States Environmental Protection Agency-approved §303(d) list of impaired water bodies, as required by 33 United States Code (USC), §1313(d), and where a total maximum daily load implementation plan has been adopted by the commission that established additional water quality protection measures for CAFOs that are not required by the CAFO general permit.

(5) Any animal feeding operation (AFO) that the executive director designates and requires to be authorized by an individual water quality permit to achieve the policies and purposes enumerated in TWC, §5.120 and §26.003; Texas Health and Safety Code, Chapters 341, 361, or 382; or §321.31 of this title (relating to Manure, Litter, and Wastewater Discharge and Air Emission Limitations). Cases where the executive director may require an AFO to obtain an individual water quality permit include, but are not limited to, the following:

(A) the operation is located near surface or groundwater resources;

(B) compliance with standards in addition to those listed in this subchapter is necessary in order to protect water in the state from pollution;

(C) the operation is not or has not been in substantial compliance with the standards of this subchapter;

(D) the operation is under a formal commission enforcement order or has been referred to the commission for enforcement action by the Texas State Soil and Water Conservation Board;

(E) the operation does not qualify for a CAFO general permit under §205.4 of this title (relating to Authorizations and Notices of Intent);

(F) the production area or land management unit of any new CAFO is located in a watershed of a segment listed on the current §303(d) list of impaired water bodies for bacteria, nutrients, and/or pathogens as required by 33 USC, §1313(d);
or

(G) the executive director determines that an individual water quality permit is appropriate considering other pertinent factors.

(c) Individual permit or general permit required. A discharge from any other CAFO shall be authorized either by an individual water quality permit or an applicable CAFO general permit. Except as provided by subsection (f) of this section, any operator required to obtain an individual water quality permit or authorization under a CAFO general permit according to this subsection may not begin physical construction or operation of any new control facility until the CAFO operator receives an individual water quality permit or authorization under a CAFO general permit, unless otherwise authorized by the commission under TWC, §26.027(c).

(d) New or expanding AFO. No person may commence construction or operation of a new CAFO or alter any existing AFO such that it becomes defined as a CAFO without prior authorization through an individual water quality permit or a CAFO general permit, unless otherwise authorized by the commission under TWC, §26.027(c). This subsection does not apply to dry litter poultry operations specified in subsection (f) of this section.

(e) Newly defined CAFO. An existing AFO that becomes classified as a CAFO may not begin physical construction or operation of any new control facility until the CAFO operator receives authorization through an individual water quality permit or a CAFO general permit, unless otherwise authorized by the commission under TWC, §26.027(c).

(f) Dry litter poultry operations. A dry litter poultry CAFO shall only be required to obtain authorization by an individual water quality permit or a CAFO general permit in accordance with subsection (a), (b), or (c) of this section if it proposes to discharge or the executive director determines that a permit is necessary due to an unauthorized discharge; the operation's failure to comply with, or timely obtain, a certified water quality management plan approved by the Texas State Soil and Water Conservation Board; or other pertinent factors. Any dry litter poultry CAFO is authorized to be constructed and operated if the operation has a certified water quality management plan approved by the Texas State Soil and Water Conservation Board or is otherwise in compliance with the plan implementation schedule set forth in the notes following codified TWC, §26.302.

(g) Expansion or modification requirements. A CAFO operator authorized under an individual water quality permit shall comply with §305.62 of this title (relating to Amendments). Before the permittee begins physical construction or operation of any new control facility, the operator must obtain commission authorization. Changes for which an individual permit amendment is required include, but are not limited to:

- (1) increasing the maximum number of animals authorized for confinement;
- (2) increasing the wastewater storage volume;
- (3) adding land management units or increasing application acreage; and
- (4) using a crop or yield goal to determine maximum application rates for manure, sludge, or wastewater that is not authorized by the permit or authorization.

(h) AFOs that are not defined or designated as CAFOs. Discharges of manure, sludge, or wastewater from an AFO that is not a CAFO as defined in this subchapter are authorized under this subchapter. Requirements applicable to these AFOs are described in §321.47 of this title (relating to Requirements for Animal Feeding Operations (AFOs) Not Defined or Designated As Concentrated Animal Feeding Operations (CAFOs)).

(i) Edwards Aquifer. New CAFOs are prohibited within the Edwards Aquifer recharge zone.

(j) Permit term. Individual and general permits issued under this subchapter shall be effective for a term not to exceed five years from the date the permit is issued.

(k) Dual authorization. No person may concurrently hold both an individual water quality permit and authorization under a CAFO general permit for the same CAFO.

(l) Additional requirements. Authorization under this subchapter, a general permit, or an individual permit does not release the operator from any responsibilities or requirements under other federal, state, or local statutes or regulations.

(m) State-only authorizations. Any AFO that is a state-only CAFO shall be authorized in accordance with subsection (a), (b), or (c) of this section.

Adopted July 2, 2014

Effective July 31, 2014

§321.34. Permit Applications.

(a) Any operator of an animal feeding operation (AFO) who is required to operate under an individual water quality permit by the Texas Water Code, the executive director, or this subchapter shall submit an application in accordance with Chapter 281 of this title (relating to Applications Processing) and Chapter 305 of this title (relating to Consolidated Permits). The applicant shall provide such additional information in

support of the application as may be necessary for the executive director to carry out an adequate administrative and technical review of the application.

(b) Applicants shall comply with §§305.41, 305.43, 305.44, and 305.47 of this title (relating to Applicability; Who Applies; Signatories to Applications; and Retention of Application Data) and §1.5(d) of this title (relating to Records of the Agency). Except as provided in subsection (c) of this section, §§305.61 - 305.68 of this title (relating to Applicability; Amendments; Renewal; Transfer of Permits; Permit Denial, Suspension, and Revocation; Revocation and Suspension upon Request or Consent; and Action and Notice on Petition for Revocation or Suspension) apply to applications for water quality permits. Notice, public comment, and contested case hearings on applications shall be conducted in accordance with commission rules governing applicable individual water quality permit applications.

(1) Any permittee with an issued and effective individual water quality permit shall submit an application for renewal of the permit in accordance with the requirements of Chapter 281 and Chapter 305 of this title, or shall submit a notice of intent (NOI) for a concentrated animal feeding operation (CAFO) general permit in accordance with the requirements of the CAFO general permit.

(2) If an individual water quality permit application is submitted before the expiration date of the existing authorization, the terms and conditions of the existing permit continues in effect until final commission action on the permit application. An authorization under the general permit will be renewed in accordance with the requirements in the general permit and this subchapter.

(3) A CAFO owner or operator who submits an NOI for a CAFO general permit authorization or is authorized under the CAFO general permit shall comply with the public participation process detailed in the CAFO general permit.

(4) The executive director may renew an application for an individual water quality permit for a state-only CAFO without a contested case hearing if the application qualifies for the exception in Texas Water Code, §26.028(d) or if the operation is not a major source as defined under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification). Renewal under this paragraph is allowed only if there has been no related formal enforcement action against the facility during the last 36 months of the term of the individual water quality permit in which the commission determined that:

(A) a violation occurred that contributed to pollution of surface or groundwater, or an unauthorized discharge occurred, or a violation of §101.4 of this title (relating to Nuisance) occurred, or any violation of an applicable state or federal air quality control requirement occurred;

(B) such discharge or air emission was within the reasonable control of the permittee; and

(C) such discharge or air emission could have been reasonably foreseen by the permittee.

(5) For any application for renewal within an area specified in §321.32(19) of this title (relating to Definitions), the executive director will conduct an annual compliance inspection within 12 months of the date the executive director declares the application administratively complete.

(c) An operator shall submit a complete application within 90 days of notification from the executive director that an individual water quality permit is required under §321.33(b)(5) of this title (relating to Applicability and Required Authorizations).

(d) Permittees may amend their individual water quality permits in accordance with §305.62 of this title and §321.33(g) of this title and must include all requested changes to the individual water quality permit application. The executive director will process a permit amendment application in accordance with all applicable requirements in Chapter 281 and Chapter 305 of this title.

(e) Any operator of an AFO who files an application for an individual water quality permit under this subchapter, or an amendment in accordance with §321.33(h) of this title, shall submit a complete application to the executive director, according to the provisions of this section including any other information as the executive director or the commission may require.

(f) Applications for an individual water quality permit under this section shall be made on forms prescribed by the executive director. The applicant shall submit an original completed application with attachments to the executive director at the commission headquarters in Austin, and one additional copy of the application with attachments to the appropriate commission regional office. At a minimum, the executive director will require the following information to be submitted, as it is applicable to the facility:

(1) information specified in §305.45 of this title (relating to Contents of Application for Permit);

(2) information specified in 40 Code of Federal Regulations (CFR) §122.21(i)(1), relating to application for a permit for a CAFO;

(3) a recharge feature certification, signed and sealed by a licensed Texas professional engineer, or a licensed Texas professional geoscientist, documenting the absence or presence of any natural or artificial recharge features identified on any tracts of land owned, operated, controlled, rented, or leased by the applicant and to be used as a part of a CAFO or land management unit. The recharge feature certification shall be developed in accordance with this subsection and the executive director's guidance, RG-433 Guidelines for Identifying and Protecting Aquifer Recharge Features. Use of the forms provided in RG-433 is optional.

(A) A water quality management plan certified by the Texas State Soil and Water Conservation Board for a dry litter poultry facility that evaluates site-specific recharge characteristics and management practices of the operation will meet the recharge feature certification requirement of this paragraph.

(B) If the recharge feature certification identifies the presence of recharge features the applicant shall have protective measures developed, signed, and sealed by a licensed Texas professional engineer, or licensed Texas professional geoscientist, as appropriate and in conformance with the Texas Engineering Practice Act and the Texas Geoscience Practice Act and the licensing and registration boards under these acts. The permittee must implement the protective measures. The protective measures must prevent impacts to the aquifer from any recharge features present. The protective measures must include at least one of the following:

(i) measures to protect each located recharge feature, such as impervious cover, berms, buffer zones, or other equivalent protective measures;

(ii) a detailed groundwater monitoring plan which requires annual groundwater sampling from representative wells and the groundwater analyzed for chlorides, nitrates, and total dissolved solids; or

(iii) 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.

(4) 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.

Adopted July 2, 2014

Effective July 31, 2014

§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).

Adopted June 23, 2004

Effective July 15, 2004

§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) subject to the requirements of the Texas Pollutant Discharge Elimination System, unless otherwise noted.

(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) Nutrient management plan (NMP).

(1) The operator of a large CAFO shall develop and implement an NMP certified by a person or entity identified in §321.32(10) of this title (relating to Definitions) to be in accordance with the Texas Natural Resources Conservation Service NRCS Practice Standard Code 590. The plan shall include site-specific nutrient management practices that ensure appropriate agricultural utilization of nutrients in the manure, sludge, or wastewater. The NMP shall be updated annually. The operator shall determine the amount, in tons/acre or acre-inches/acre, of manure, sludge, and wastewater for each land management unit (LMU) using the following methodology:

(A) determine the phosphorus index rating using the Agronomy Technical Note No. 15 Phosphorus Assessment Tool of Texas;

(B) determine the maximum annual application rate using Appendix 5 of the NRCS Practice Standard Code 590 for Texas;

(C) determine the crop requirement or the crop removal rate, as appropriate, from the S Crops Table as contained in the Texas NRCS 590- Software

Tool, site-specific historic CAFO yield data, or other sources as approved by the executive director; and

(D) account for:

(i) the results of soil tests required by §321.40(m)(1)(B) of this title (relating to Concentrated Animal Feeding Operation (CAFO) Land Application Requirements);

(ii) credits for all nitrogen in the soil that will be available for plant use;

(iii) the amount of nitrogen and phosphorus in the manure and wastewater to be applied;

(iv) consideration of multi-year phosphorus application (for any LMU where nutrients are applied at a rate based on crop phosphorus requirement, the methodology must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement); and

(v) all other additions of plant available nitrogen and phosphorus to the LMU (i.e., from sources other than manure or wastewater or credits for residual nitrogen).

(2) Terms of the NMP include the following:

(A) animal type and authorized head count;

(B) LMU and application acreage for each LMU;

(C) crops (including alternative crops) identified in the NMP with their yield goals for each LMU;

(D) the maximum application rates for nitrogen and phosphorus for each crop in each LMU;

(E) the methodology in paragraph (1) of this subsection (including formulas, sources of data, protocols for making determinations, etc.) and actual data used to calculate application rates; and

(F) any other factors necessary to determine the amounts of nitrogen and phosphorus to be applied.

(3) Changes to a NMP. Any changes, except changes resulting from annual recalculation, must be submitted to the executive director. The NMP will be reviewed by the executive director to determine if changes require revisions to the terms of the NMP. Revisions to terms of the NMP can be substantial or non-substantial.

(4) Substantial and non-substantial changes. Those changes that constitute a substantial change are defined in §321.32(56) of this title. Non-substantial changes include, but are not limited to, changes to the site-specific LMU information in the Phosphorus index Worksheet, changes to the maximum application rate of nitrogen or phosphorus to be land applied or changes in the phosphorus index rating.

(5) If changes to the terms of the NMP are determined to be substantial, the changes must be incorporated into the permit in accordance with §321.33(g) of this title (relating to Applicability and Required Authorizations).

(6) If changes to the terms of the NMP are determined to be non-substantial, the executive director will notify the permittee and include the revised permit in the permit record.

(7) 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 records of manure and wastewater application.

(d) Compliance with the requirements of this section and applicable requirements of this subchapter constitute compliance with the provisions of 40 Code of Federal Regulations (CFR) §122.42(e)(1)(i) - (ix).

(e) Buffers for LMUs. A sinkhole shall be protected with a 100-foot buffer from manure, sludge, 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.

(f) Soil sampling and testing procedures for dairy CAFOs, both state-only and Texas Pollutant Discharge Elimination System, located in a major sole-source impairment zone.

(1) Initial sampling. Before commencing land application of manure, sludge, or wastewater on an LMU, 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 TCEQ or its designee shall annually collect soil samples, according to the following procedures, for each LMU owned, operated, controlled, rented or leased by the CAFO operator where manure, litter, or wastewater was applied during the preceding year. The results of these analyses shall be used in determining the application rates for manure, sludge and wastewater.

(3) Sampling procedures. Soil sampling procedures 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 this section and the agency's publication, RG-408 entitled "Soil Sampling for Concentrated Animal Feeding Operations."

(B) Samples shall be collected by the Texas Commission on Environmental Quality or its designee and analyzed by a soil testing laboratory within the same 45-day time frame each year (from 45 days prior to until 45 days after the date of the previous year's sampling date), 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. Laboratory analysis of the soil samples shall be 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) or millimhos/cm (mmhos/cm) - determined from extract of 2:1 volume to volume (v/v) water/soil mixture); and soil water pH.

(g) Annual report required. An annual report shall be submitted to the executive director's Office of Compliance and Enforcement, Enforcement Division, by March 31 of each year (for the reporting period of January 1 to December 31 of the previous year, or the actual 12-month reporting period used by the CAFO) 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, sludge, and wastewater generated during the reporting period;

(3) total manure, sludge, and wastewater land applied during the reporting period;

(4) total manure, sludge, 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, sludge, 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 or revised and approved by a certified nutrient management specialist;

(8) a copy of the initial soil analysis for each LMU, regardless of whether manure, sludge, 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 if applicable;

- (11) the actual crop(s) planted and yield(s) for each LMU;
- (12) the actual nitrogen and phosphorus content of the manure, sludge, and process wastewater that was land applied;
- (13) the data used in calculations and the results of calculations conducted in accordance with subsection (c) of this section;
- (14) the amount of manure, sludge, and wastewater applied to each LMU during the reporting period;
- (15) any supplemental fertilizer applied during the reporting period; and
- (16) any other information requested by the executive director.

Adopted July 2, 2014

Effective July 31, 2014

§321.37. Effluent Limitations for Concentrated Animal Feeding Operation (CAFO) Production Areas.

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

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

(c) There shall be no discharge of manure, sludge, 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.

(1) 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) such that no discharge will occur.

(2) Provisions for upset or bypass, as defined in §321.32 of this title (relating to Definitions) and as provided in 40 CFR §122.41 (m) and (n), apply to a new source subject to this provision. To establish the affirmative defense of upset, a permittee shall demonstrate, through properly signed operating logs, or other relevant evidence that:

(A) an upset occurred and that the permittee can identify the cause(s) of the upset; and

(B) the permitted facility was at the time being properly operated in accordance with its permit or authorization and all applicable CAFO rules and regulations.

(d) Except as provided by this subsection, and §321.42(c) of this title (relating to Requirements Applicable to the Major Sole-Source Impairment Zone), for all other CAFOs, there shall be no discharge of manure, sludge, or wastewater from a CAFO production area.

(1) 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.

(2) 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.

(3) 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 paragraph (1) of this subsection, 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).

Adopted July 2, 2014

Effective July 31, 2014

§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 operations (CAFOs). Any CAFO operator that does not use a retention control structure (RCS) is not subject to subsections (e), (f), and (g) of this section.

(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 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 land management units (LMUs), 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 §321.34(f)(3) of this title (relating to Permit Applications). For new wells drilled after July 20, 2004, documentation supporting variances of the buffer zones that were previously authorized shall be kept on site and made available to agency personnel upon request.

(d) 100-year flood plain. All control facilities, including holding pens and RCSs, shall be located outside of the 100-year flood plain unless the facility is protected from inundation and damage that may occur during the 100-year flood event.

(e) RCS design capacity. The following design requirements apply to any CAFO.

(1) The design of a control facility shall include measures that will be used to minimize entry of uncontaminated runoff into RCSs.

(2) Any CAFO constructing a new or modifying an existing RCS shall ensure that the design specifications and completed construction specifications are certified by a licensed Texas professional engineer. The failure to obtain the certifications or to maintain records verifying the certifications is a violation of this subchapter.

(3) Except as provided in this subsection, each RCS, at a minimum, shall be designed and constructed in accordance with the technical standards developed by the Natural Resources Conservation Service (NRCS), American Society of Agricultural and Biological Engineers, American Society of Civil Engineers, American Society of Testing Materials, or other technical standard approved by the executive director that are in effect at the time of construction. Where site-specific variations are warranted, a licensed Texas professional engineer shall document these variations and their appropriateness to the design.

(4) Any existing RCS that has been properly maintained without any modifications and has no apparent structural problems or leakage is considered to be properly designed with respect to the RCS sizing, embankment design and construction, and liner requirements of this section, provided that any required documentation was

completed in accordance with the requirements at the time of construction. If no documentation exists, the RCS must be certified by a licensed Texas professional engineer as providing protection equivalent to the requirements of this section.

(5) Any RCS documented to have been built in accordance with site-specific NRCS plans and specifications is considered to be in compliance with the design and capacity requirements of this subchapter provided that:

(A) the site-specific conditions are the same as those used by the NRCS to develop the plan (numbers of animals, runoff area, manure, sludge, and wastewater generated, etc.); and

(B) the RCS is operated and maintained in accordance with NRCS requirements.

(6) The production area of a new or expanding AFO shall not be constructed in any stream, river, lake, wetland, or playa, except as provided in §321.41 of this title (relating to Special Requirements for Discharges to a Playa).

(7) The design plan must include documentation of the sources of information, assumptions, and calculations used in determining the appropriate volume capacity of the RCSs. Poultry (chickens and turkeys), swine, or veal calf CAFOs subject to the new source performance standards in subparagraph (B) of this paragraph shall be designed in accordance with subparagraphs (B) and (C) of this paragraph or subparagraphs (B) and (D) of this paragraph. For all other CAFOs, the volume must include design rainfall event runoff and normal operating capacity requirements in accordance with subparagraphs (A) and (C) of this paragraph or design rainfall event runoff and evaporation systems in accordance with subparagraphs (A) and (D) of this paragraph.

(A) Design rainfall event runoff. All CAFOs, other than poultry (chickens and turkeys), swine, or veal calf CAFOs subject to the new source performance standards in subparagraph (B) of this paragraph, shall have an RCS designed and constructed to meet or exceed the capacity required to contain the runoff and direct precipitation from the 25-year, 24-hour rainfall event, except as required by §321.42(c) of this title (relating to Requirements Applicable to the Major Sole-Source Impairment Zone) or authorized under §321.37(d)(3) of this title (relating to Effluent Limitations for Concentrated Animal Feeding Operation (CAFO) Production Areas).

(B) New source swine, veal, or poultry (chickens and turkeys) CAFOs. Any swine, veal, or poultry (chickens and turkeys) CAFO subject to the new source performance standards in 40 Code of Federal Regulations (CFR) §412.46 shall

have an RCS designed and constructed such that no discharge will occur in accordance with the following:

(i) Information used in the design of the RCS shall include, but is not limited to, the following: design rainfall event, additional minimum capacity for chronic rainfalls identified in the evaluation required by clause (ii) of this subparagraph, the requirements of subparagraph (C) or (D) of this paragraph, additional storage capacity for wastewater intended to be transferred to another recipient at a later time, and any other factors that would affect the sizing of the RCS.

(ii) An evaluation of the adequacy of the designed RCS using the most recent version of the Soil Plant Air Water (SPAW) Hydrology Tool, or other tool approved by the executive director. 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 LMUs, planned crop rotations consistent with the nutrient management plan, and the final modeled result of no discharges from the designed RCS. For those CAFOs where 100 years of local weather data is not available, a simulation with a confidence interval analysis conducted over a period of 100 years may be used.

(C) Design capacity requirements for systems using irrigation.

(i) The RCS shall be designed for the authorized number of animals to include any storage volume required by a hydrologic needs analysis (water balance) that documents that the typical irrigation demands of the adopted crop and irrigated land area will not be exceeded.

(ii) Precipitation inputs to the water balance shall be the average monthly precipitation reported in a National Weather Service current publication.

(iii) The consumptive use requirements of the cropping system shall be developed on a monthly basis, and shall be calculated as a part of the water balance.

(iv) The maximum required storage value calculated by the water balance shall not encroach on the storage volume required for the design rainfall event.

(v) Wastewater application rates used in the water balance shall not induce uncontrolled runoff or create tailwater that causes a discharge.

(vi) All process-generated wastewater produced during a 21-day or greater period.

(vii) Any other relevant volume needed in the water balance, including any required under the air standard permit in §321.43 of this title (relating to Air Standard Permit for Animal Feeding Operations (AFOs)).

(D) Design requirements for evaporation systems. Evaporation systems shall be designed:

(i) to withstand a ten-year (consecutive) period of maximum recorded monthly rainfall (other than catastrophic). In any month in which a catastrophic rainfall event occurs, the water balance shall replace such an event with not less than the long-term average rainfall for that month as determined by a water balance; and

(ii) to maintain sufficient volume to contain rainfall and rainfall runoff from the design rainfall event without overflow. The depth for this volume must be at least one vertical foot allocated within the RCS above the volume required in clause (i) of this subparagraph.

(f) Dewatering system. An irrigation system or other liquid removal system used by an AFO must be designed to ensure that the system is capable of dewatering the RCSs on a regular schedule. RCSs shall be equipped with irrigation or wastewater removal systems capable of dewatering the RCSs whenever needed to restore the operating capacity. Dewatering equipment shall be maintained in proper working order.

(g) RCS embankment and liner design.

(1) For RCSs where the depth of water impounded against the embankment at the spillway elevation is three feet or more, the RCS is considered to be designed with an embankment. The pollution prevention plan shall include a description of the design specifications for the RCS embankments. The following design specifications are required for all new construction or the modified portions of existing RCSs.

(A) Soils used in the embankment shall be free of foreign material such as rocks larger than four inches, trash, brush, and fallen trees.

(B) The embankment shall be constructed in lifts or layers no more than eight inches compacted to six inches thick at a minimum compaction effort of 95% Standard Proctor Density (ASTM D698) at - 1% to +3% optimum moisture content.

(C) All embankment walls shall be stabilized to prevent erosion or deterioration.

(D) Embankment construction must be accompanied by certified compaction tests including in-place density and moisture in accordance with ASTM D1556, D2167, or D2937 for density and D2216, D4634, D4944, or D4959 for moisture, and D2922-91 or D6938-07 for moisture and density, or equivalent testing standards.

(E) Additional protection for new or modified portions of existing RCSs that are constructed with embankments designed to contain runoff from a drainage area shall be constructed with a spillway or other outflow device properly sized according to NRCS design and specifications to protect the integrity of the embankment.

(F) For all new construction or the modified portions of existing RCSs, each RCS must have a minimum of two vertical feet of freeboard constructed with materials equivalent to those used at the time of design and construction between the top of the embankment and the structure's spillway. RCSs without spillways must have a minimum of two vertical feet of freeboard between the top of the embankment and the required storage capacity.

(2) For all new construction and for all structural modifications of existing RCSs, each RCS must meet the requirements for lack of hydrologic connection or have a liner consistent with subparagraph (B), (C), or (D) of this paragraph.

(A) This subparagraph applies to lack of hydrologic connection requirements. Documentation must show that there will be no significant leakage from the RCS; or that any leakage from the RCS will not migrate to water in the state. A permit or authorization will require documentation of the lack of hydrologic connection certified by a licensed Texas professional engineer or licensed Texas professional geoscientist and must include information on the hydraulic conductivity and thickness of the natural materials underlying and forming the walls of the containment structure up to the wetted perimeter.

If it is claimed that no significant leakage would result from the use of *in-situ* materials, documentation must be provided that leakage will not migrate to waters in the state. The operator must at a minimum include maps showing groundwater flow paths, or that the leakage enters a confined environment. A permit or authorization will require a written determination by an NRCS engineer, a licensed Texas professional engineer or a licensed Texas professional geoscientist that a liner is not needed to prevent a significant hydrologic connection between the contained wastewater and waters in the state.

(B) This subparagraph applies to RCS liners using *in-situ* material. *In-situ* material is undisturbed, in-place, native soil material. *In-situ* materials must at least meet the minimum criteria for hydraulic conductivity, thickness, and calculated specific discharge, as described in subparagraph (C) of this paragraph. Samples shall be collected and analyzed in accordance with subparagraph (E) of this paragraph. This documentation must be certified by a licensed Texas professional engineer or licensed Texas professional geoscientist.

(C) This subparagraph applies to constructed or installed earthen liners. Constructed or installed liners must be designed by a licensed Texas professional engineer. The liner must be constructed in accordance with the design and certified as such by a licensed Texas professional engineer. Compaction tests and post construction sampling and analyses will provide support for the liner certification. Liners shall be designed and constructed to have hydraulic conductivities no greater than 1×10^{-7} centimeters per second (cm/sec), with a thickness of 1.5 feet or greater or its equivalency in other materials, and not to exceed a specific discharge through the liner of 1.1×10^{-6} cm/sec calculated using Darcy's Law with the water level at the spillway depth. Constructed or installed liners must be designed and constructed to meet the soil requirements, lift requirements, and compaction testing requirements identified in the permit or authorization. The operator shall maintain the liner to minimize the percolation of wastewater through the liner.

(D) This subparagraph applies to geosynthetic liners. Geosynthetic liners that meet the specific discharge requirements in subparagraph (C) of this paragraph are acceptable if certified by a licensed Texas professional engineer. Documentation must be presented to the executive director for review and approval before putting into service. Installation of the liner shall be certified by a licensed professional engineer that the liner and subgrade were completed according to the manufacturer's recommendations and current standards. Seams shall be completed in accordance with the manufacturer's requirement. When wedge weld seams are used, non-destructive seam testing shall be conducted on the complete length of the wedge weld by standard air pressure testing. The certification must document compliance with all of the following standards: ASTM D5888 Storage and Handling of Geosynthetic Clay Liners, ASTM D5889 Quality Control of Geosynthetic Clay Liners, and ASTM D6102 Guide for Installation of Geosynthetic Clay Liners.

(E) This subparagraph applies to liner sampling and analyses of *in-situ* material and earthen liners.

(i) The licensed Texas professional engineer or licensed Texas professional geoscientist shall use best professional practices to ensure that corings or other liner samples will be appropriately plugged with material that also meets liner requirements of this subsection.

(ii) Samples shall be collected in accordance with ASTM D1587 or other method approved by the executive director. For each RCS, a minimum of two core samples collected from the bottom of the RCS and a minimum of at least one core sample from each sidewall. Additional samples may be necessary based on the best professional judgment of the licensed professional engineer. Distribution of the samples shall be representative of liner characteristics, and proportional to the surface area of the sidewalls and floor. Documentation shall be provided identifying the sample locations with respect to the RCS liner.

(iii) For earthen liners, undisturbed samples shall be analyzed for hydraulic conductivity in accordance with ASTM D5084, whole pond seepage analysis as described in ASABE Paper Number 034130, Double Ring Infiltrometer (stand pipe), or other method approved by the executive director.

(F) A permit or authorization shall include provisions whereby the executive director may, upon written notice, require the operator to install a leak detection system or monitoring well(s), based upon a determination that significant potential exists for the contamination of water in the state or drinking water.

(G) Documentation of lack of hydrologic connection, liner, and capacity certifications by a licensed Texas professional engineer or licensed Texas professional geoscientist must be completed for each RCS and kept on site.

(h) Manure storage. The AFO operator shall provide manure storage capacity based upon manure and waste production, land availability, and the NRCS Field Office Technical Guide or equivalent standards. When manure is stockpiled, it shall be stored in a well-drained area with no ponding of water, and the top and sides of stockpiles shall be adequately sloped to ensure proper drainage. Runoff from manure storage piles must be retained on site. If the manure areas are not roofed or covered with impermeable material, protected from external rainfall, or bermed to protect from runoff in the case of the design rainfall event, the manure areas must be located within the drainage area of the RCS and accounted for in the design calculations of the RCS.

Adopted July 2, 2014

Effective July 31, 2014

§321.39. Operational Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs).

(a) Purpose. The purpose of this section is to describe the operational requirements that apply to concentrated animal feeding operations (CAFOs). Any CAFO operator that does not use a retention control structure (RCS) is not subject to subsections (b) and (c) of this section.

(b) RCS operation and maintenance. A CAFO using an RCS for storage and treatment of stormwater, sludge, or process-generated wastewater, including liquid manure handling systems, shall ensure that the required capacity in the RCS is available to contain rainfall and rainfall runoff from the design rainfall event.

(1) The operator shall restore such capacity after each rainfall event or accumulation of manure, sludge, or process-generated wastewater that reduces such capacity, when conditions are favorable for irrigation. Favorable conditions shall be when the soil moisture level decreases so that irrigation will not cause runoff.

(2) The normal operating wastewater level in the RCS shall be maintained in accordance with the design of the RCS. If the water level in the RCS encroaches into the storage volume reserved for the design rainfall event, the operator must document the conditions that resulted in this occurrence. As soon as irrigation is allowed, the CAFO operator shall irrigate until the water level is at or below the design rainfall level.

(3) If an RCS is in danger of imminent overflow from chronic or catastrophic rainfall or catastrophic conditions, the CAFO operator shall take reasonable steps to irrigate wastewater to land management units (LMUs) only to the extent necessary to prevent overflow from the RCS. If irrigation results in a discharge from an LMU, the CAFO operator shall collect samples from the drainage pathway at the point of discharge from the LMU, analyze the samples for the parameters identified in §321.44(b)(1) of this title (relating to Concentrated Animal Feeding Operation (CAFO) Notification Requirements), and provide the appropriate notifications in accordance with §321.44(a) of this title. The operator shall orally notify the appropriate regional office within 24 hours of beginning irrigation under this provision and in writing within 14 working days.

(4) A rain gauge capable of measuring the design rainfall event shall be installed and properly maintained.

(5) The CAFO operator shall maintain the liner to inhibit infiltration of wastewater. The CAFO operator shall ensure liners and embankments are protected from animals by fences or other protective devices. No tree shall be allowed to grow such that the root zone would intrude or compromise the structure of the liner or embankment. Any mechanical or structural damage to the liner or embankment shall be evaluated by a licensed Texas professional engineer within 30 days following discovery of the damage. For re-certification of an earthen liner following mechanical or structural damage, a minimum of one sample shall be collected and analyzed to document that the liner meets the requirements of the liner certification for that RCS prior to the damage.

(6) The CAFO operator shall install and maintain a permanent pond marker in the RCS, visible from the top of the embankment that identifies, either physically or by documentation in the pollution prevention plan, the volume required for the design rainfall event and minimum treatment volume, in accordance with §321.43(j)(3)(B) of this title (relating to Air Standard Permit for Animal Feeding Operations (AFOs)).

(c) Sludge. The CAFO operator shall monitor sludge accumulation and depth in an RCS, as necessary, based upon the design sludge storage volume in the RCS.

(1) Sludge shall be removed from the RCSs in accordance with the design schedule for cleanout to prevent the accumulation of sludge from encroaching on the volumes reserved for minimum treatment, if necessary, and the design rainfall event.

(2) The operator shall provide written notice to the appropriate regional office of the commission as soon as the RCS cleaning is scheduled, but not less than ten business days prior to cleaning. The operator shall also provide written verification of completion to the same regional office within five business days after the cleaning is complete. This paragraph does not apply to cleaning of solid separators or settling basins. Removal of sludge shall be conducted during favorable wind conditions that carry odors away from nearby receptors. Any increase in odors associated with a properly managed cleanout under this subsection will be taken into consideration by the executive director when determining compliance with the provisions of this subchapter.

(d) Spill prevention and recovery. The CAFO operator shall take appropriate measures necessary to prevent spills and to clean up spills of any toxic pollutant. Where potential spills can occur, materials, handling procedures, and storage shall be specified. The CAFO operator shall identify the procedures for cleaning up spills and shall make available the necessary equipment to personnel to implement a cleanup. The CAFO operator shall store, use, and dispose of all pesticides in accordance with label instructions. There shall be no disposal of pesticides, solvents or heavy metals, or of spills or residues from storage or application equipment or containers, into RCSs. Incidental amounts of such substances entering an RCS as a result of stormwater transport of properly applied chemicals is not a violation of this section.

(e) Storage of manure and sludge. A permit or authorization will establish requirements for the temporary storage of manure, or sludge not to exceed 30 days, and requirements for permanent storage for more than 30 days. Temporary storage of manure and sludge in the 100-year flood plain, near water courses, or near recharge features is prohibited, unless protected from inundation and damage that may occur during the 100-year runoff event. Contaminated runoff from manure storage piles must be retained on site. If the manure areas are not roofed or covered with impermeable material, protected from external rainfall, or bermed to protect from runoff in the case

of the design rainfall event, the manure areas must be located within the drainage area of the RCS and accounted for in the design calculations of the RCS.

(f) Composting. Composting on site at a CAFO shall be performed in accordance with Chapter 332 of this title (relating to Composting). CAFOs may compost manure, sludge, and dead animals generated on site. In accordance with Chapter 332 of this title, a CAFO operator may add agricultural products to provide an additional carbon source or bulking agent to aid in the composting process. If the compost areas are not roofed or covered with impermeable material, protected from external rainfall, or bermed to protect from runoff in the case of the design rainfall event, the compost areas must be located within the drainage of the RCS and must be shown on the site plan and accounted for in the RCS design calculations.

(g) Maintenance of animals.

(1) Animals confined at the CAFO shall be restricted from coming into direct contact with surface water in the state through the use of fences or other controls.

(2) A CAFO that maintains animals in pastures must maintain crops, vegetation, forage growth, or post-harvest residues in the normal growing season, excluding the feed and water trough areas.

(3) 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, 58.31(b), and 59.12 (relating to Disposal, Disposal of Diseased or Exposed Livestock, and Carcass Disposal Requirements, respectively). Carcass disposal shall be addressed in the potential pollutant sources section of the pollution prevention plan with management practices to prevent contamination of surface or groundwater, control access, and minimize odors.

(h) Closure required.

(1) The operator shall submit a closure plan to the executive director and the appropriate regional office within 90 days of permanently ceasing operations.

(2) The closure plan must be developed and certified by a licensed Texas professional engineer to meet the standards contained in the NRCS Practice Standard Code 360 (Closures of Waste Impoundments), and using the guidelines contained in the

Texas AgriLife Extension Service/NRCS publication #B-6122 (Closure of Lagoons and Earthen Manure Storage Structures).

(3) The RCS or CAFO shall be properly closed within one year of Texas Commission on Environmental Quality receipt of the closure plan or an alternate schedule approved by the executive director. The RCS or CAFO is considered properly closed upon certification by a licensed Texas professional engineer that closure is complete according to the closure plan.

(4) The operator shall maintain or renew its existing authorization and maintain compliance with the requirements of this subchapter until the facility is properly closed.

Adopted July 2, 2014

Effective July 31, 2014

§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 operations (CAFOs).

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

(c) Manure, sludge, 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, sludge, or wastewater from a 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 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)), unless

additional wellhead protective measures are implemented that will prevent pollutants from entering the well and contaminating groundwater. 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 maintained in accordance with Natural Resources Conservation Service (NRCS) Practice Standard Code 393. The minimum buffer shall be no less than 100 feet of vegetation to be maintained between manure, sludge, 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. Land application of manure, sludge, and wastewater into surface water in the state is an unauthorized discharge and is prohibited.

(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) and Chapter 290 of this title (relating to Public Drinking Water), as appropriate.

(j) Nighttime application of manure, sludge, 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 actual area receiving manure, sludge, or wastewater application. In areas with an occupied residence within 1/4 mile from the outer boundary of the actual area receiving manure, sludge, or wastewater application, application shall only be allowed from one hour after sunrise until one hour before sunset, unless the current resident owner or lessee of such residences have agreed in writing to specified nighttime applications.

(k) Nutrient requirement.

(1) Any land application of manure, sludge, and wastewater shall not exceed the planned crop requirements. Land application rates of manure, sludge, or wastewater shall be based on the total nutrient concentration, on a dry weight basis, where applicable.

(2) Critical phosphorus level. Land application of manure, sludge, or wastewater shall not exceed the crop removal rate when results of the annual soil analysis for extractable phosphorus indicate:

(A) a level greater than 200 parts per million (ppm) for a particular LMU; or

(B) a level greater than 350 ppm for an LMU where the average annual rainfall is 25 inches or less and erosion control is adequate to keep erosion at the soil loss tolerance (T) or less and the closest edge of the field is more than one mile from a named stream; or

(C) if ordered by the executive director to do so in order to protect water in the state.

(3) Dairy CAFOs located in a major sole-source impairment zone shall develop a nutrient utilization plan (NUP) when the annual soil analysis for extractable phosphorus in zone 1 (0 - 6-inch incorporated; 0 - 2 or 2 - 6-inch if not incorporated) depth in an LMU is greater than 200 ppm. State-only CAFOs shall develop a NUP when the annual soil analysis for an LMU indicates the critical phosphorus levels in paragraph (2) of this subsection have been exceeded. A nutrient management plan, based on crop removal certified as meeting the NRCS Practice Standard Code 590 is equivalent to the requirements for a NUP.

(A) If an operator is required to develop a NUP, the operator shall cease land application of manure, sludge, or wastewater to the affected area and may resume only after a NUP is implemented.

(B) The NUP must be developed and certified by:

(i) an employee of the NRCS;

(ii) a nutrient management specialist certified by the NRCS;

(iii) the Texas State Soil and Water Conservation Board;

(iv) Texas AgriLife Extension Service;

(v) an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas;

(vi) a Certified Professional Agronomist certified through the certification program of the American Society of Agronomy;

(vii) a Certified Professional Soil Scientist certified through the certification program of the Soil Science Society of America; or

(viii) 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 subparagraph cannot develop the plan in a timely manner.

(C) 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 dairy CAFO located in a major sole-source impairment zone shall implement the requirements of the nutrient management plan certified in accordance with §321.36(c) of this title (relating to Texas Pollutant Discharge Elimination System General Requirements for Concentrated Animal Feeding Operations (CAFOs)) and the operator of other state-only CAFOs must follow the requirements in this section.

(D) Land application under the terms of the NUP may begin 30 days after the plan is filed with the executive director, unless before that time the executive director has returned the plan for failure to comply with all the requirements of this subsection.

(l) Runoff from an LMU. Where manure, sludge, or wastewater is applied in accordance with a site-specific nutrient management plan that complies with §321.36(c) of this title or when the land application conforms to this section, precipitation-related runoff from LMUs is authorized as:

(1) a pollutant discharge if the source is land associated with a CAFO in a major sole-source impairment zone; or

(2) an agricultural stormwater discharge for all other sources.

(m) Sampling and Testing.

(1) Initial sampling. Before commencing land application of manure, sludge, or wastewater on LMUs and before resuming land application on LMUs where manure, sludge, or wastewater was not applied during the preceding year, the operator shall:

(A) collect and analyze at least one representative sample of manure, sludge (if applicable), and wastewater for total nitrogen, total phosphorus, and total potassium;

(B) collect and analyze at least one representative soil sample from each LMU according to the procedures in paragraphs (4) and (5) of this subsection; and

(C) utilize the results of these analyses in determining application rates for manure, sludge, and wastewater.

(2) Annual Sampling. The operator shall:

(A) collect and analyze at least one representative sample of manure, sludge (if applicable), and wastewater for total nitrogen, total phosphorus, and total potassium;

(B) collect and analyze at least one representative soil sample from each LMU where manure, sludge, or wastewater was applied during the preceding year according to the procedures in paragraphs (4) and (5) of this subsection; and

(C) utilize the results of these analyses in determining application rates for manure, sludge, and wastewater.

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

(4) 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 methods described in the agency's guidance RG-408 entitled "Soil Sampling for Concentrated Animal Feeding Operations."

(B) Samples shall be collected by the operator or its designee and analyzed by a soil testing laboratory annually, except when crop rotations or inclement weather require a change in the sampling time. The pollution prevention plan shall contain documentation to explain the reasons for adjusting the sampling timeframe.

(C) Obtain one composite sample for each LMU and per uniform soil type (soils with the same characteristics and texture) within the LMU.

(D) Composite samples shall be comprised of 10 - 15 randomly sampled cores at a depth of zero to six inches.

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

Adopted July 2, 2014

Effective July 31, 2014

§321.41. Special Requirements for Discharges to a Playa.

(a) This section applies to any animal feeding operation (AFO) operator authorized by the commission before July 13, 1995 to discharge manure, litter, or wastewater into a playa or to use a playa as a retention control structure for manure, litter or wastewater in accordance with Texas Water Code, §26.048.

(b) A playa that is in use as a retention control structure, as allowed by Texas Water Code (TWC), §26.048, and that shows no signs of leakage, is considered to satisfy all applicable design and construction requirements specified in §321.38 of this title (relating to Control Facility Design Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs)).

(c) A groundwater plan for use of a playa shall be implemented in accordance with TWC, §26.048.

(d) If the executive director determines that contamination of groundwater is occurring as a result of use of the playa as a retention facility for manure, litter, or wastewater from the AFO, the executive director shall require action to correct the problem or revoke the AFOs authority to discharge into the playa.

Adopted June 23, 2004

Effective July 15, 2004

§321.42. Requirements Applicable to the Major Sole-Source Impairment Zone.

(a) The purpose of this section is to describe certain requirements for individual water quality permits for dairy concentrated animal feeding operations (CAFOs) or other authorizations allowed by this subchapter when an operation is located in a major sole-source impairment zone. Additionally, subsection (i) of this section applies to any dairy animal feeding operation (AFO), including any dairy CAFO, which is located in a major sole-source impairment zone.

(b) The dairy CAFO operator must adhere to provisions of this section and the other requirements contained in this subchapter. When a requirement of this section conflicts with another requirement of this subchapter, the requirement of this section shall supercede the other requirement.

(c) The dairy CAFO operator must operate and maintain a margin of safety in the retention control structure (RCS) to contain the volume:

(1) of runoff and direct precipitation from the 25-year, ten-day rainfall event; or

(2) necessary to prevent overflow resulting from a statistically determined probability of overflow resulting in a discharge frequency of no more than once in 25 years. The margin of safety using this method must be evaluated using the Soil Plant Air and Water (SPAW) Field and Pond Hydrology Tool and be certified by a Texas licensed professional engineer.

(d) The dairy CAFO is only authorized to discharge from a properly operated and maintained RCS when the volume of the rainfall runoff and direct precipitation exceed the volume for the margin of safety that must be maintained in the RCS.

(e) If construction of new or modified RCSs is necessary to comply with subsections (c) and (d) of this section, a permit or other authorization will specify a schedule for compliance.

(f) The dairy operator shall install and maintain a permanent pond marker (measuring device) in the RCS visible from the top of the levee to show the following:

(1) the volume for the margin of safety; and

(2) one-foot increments beginning from the predetermined minimum treatment volume of the RCS to the top of the embankment or spillway.

(g) The dairy operator shall implement an RCS management plan incorporating the margin of safety developed by a licensed Texas professional engineer. The management plan shall become a component of the pollution prevention plan (PPP), shall be developed for the RCS system, and must describe or include:

(1) RCS management controls appropriate for the CAFO and the methods and procedures for implementing such controls;

(2) the methods and procedures for proper operation and maintenance of the RCS consistent with the system design;

(3) the appropriateness and priorities of any controls reflecting the identified sources of pollutants at the facility;

(4) a stage/storage table for each RCS with minimum depth increments of one-foot, including the storage volume provided at each depth;

(5) a second table or sketch that includes increments of water level ranges for volumes of total design storage, including the storage volume provided at each specified depth (or water level) and the type of storage designated by that depth; and

(6) the planned end of month storage volume anticipated for each RCS for each month of the year and the corresponding operating depth expected at the end of each month of the year, based on the design assumptions.

(h) The dairy operator shall monitor and record wastewater levels daily in the RCS. A log shall be kept in the PPP to document the level of wastewater observed each day. In circumstances where the RCS has a water level exceeding the expected end of the month depth, the operator shall document in the PPP why the level of water in the structure is not at or below the expected depth.

(i) The dairy operator shall provide for management and disposal of waste as specified in Texas Water Code, §26.503, in accordance with the following:

(1) beneficially used outside of the watershed;

(2) disposed in landfills outside of the watershed, subject to the requirements of commission rules relating to industrial solid waste;

(3) delivered to a composting facility approved by the executive director;

(4) put to another beneficial use approved by the executive director; or

(5) applied in any of the following ways:

(A) in accordance with a nutrient management plan (NMP) certified in accordance with Natural Resources Conservation Service (NRCS) Code 590 Practice Standard to a waste application field that is owned, operated, controlled, rented, or leased by the owner of the CAFO, if the field is not a historical waste application field, as defined in §321.32 of this title (relating to Definitions);

(B) in accordance with an NMP certified in accordance with NRCS Code 590 Practice standard to a historical waste application field that is owned, operated, controlled, rented, or leased by the owner or operator of the CAFO, if results of representative composite soil sampling conducted at the waste application field and submitted to the executive director show that the waste application field contains 200 or fewer parts per million (ppm) of extractable phosphorus (reported as P) in the Zone 1 (zero to six inches) depth; or

(C) in accordance with a detailed nutrient utilization plan (NUP) approved by the executive director which, at a minimum, meets the requirements of §321.40(k)(3) of this title (relating to Concentrated Animal Feeding Operation (CAFO) Land Application Requirements), to a historical waste application field that is owned, operated, controlled, rented, or leased by the owner or operator of the CAFO, if results of representative composite soil sampling conducted at the waste application field and submitted to the executive director show that the waste application field contains greater than 200 ppm of extractable phosphorus (reported as P) in the Zone 1 (zero to six inches) depth.

(j) Permits for existing dairy CAFOs in the major sole-source impairment zone in accordance with subsection (i) of this section may allow the operator to provide manure, litter, and wastewater to operators of third-party fields, i.e., areas of land not owned, operated, controlled, rented, or leased by an AFO owner or operator, that have been identified in the PPP. The dairy operator will be subject to enforcement action for violations of the land application requirements on any third-party field under contract. The permit provision must, at a minimum, include the following requirements:

(1) there must be a written contract between the dairy operator and the recipient that requires all transferred manure, litter, and wastewater to be beneficially applied to third-party fields identified in the PPP in accordance with the applicable requirements in §321.36 of this title (relating to Texas Pollutant Discharge Elimination System Requirements for Concentrated Animal Feeding Operations (CAFOs) and §321.40 of this title at an agronomic rate based on soil test phosphorus;

(2) the permit must prohibit the dairy operator from delivering manure, litter, or wastewater to an operator of a third-party field once the soil test phosphorus analysis shows a level equal to or greater than 200 ppm or after becoming aware that the third-party operator is not following §321.36 of this title and §321.40 of this title and the contract;

(3) third-party fields identified in the PPP on which manure, litter, or wastewater have been applied during the preceding year must be sampled annually by a nutrient management specialist and the samples analyzed in accordance with §321.36(g) of this title; and

(4) the dairy operator shall submit records to the appropriate regional office quarterly that contain the name, locations, and amounts of manure, litter, or wastewater transferred to operators of third-party fields.

(k) The dairy operator must contract with the NRCS, a certified nutrient management specialist, the Texas State Soil and Water Conservation Board, the Texas Cooperative Extension, or an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas to collect one or more representative composite soil samples from each LMU including any historical waste application fields, not less than once every 12 months.

(l) The dairy operator shall notify the appropriate regional office in writing or by electronic mail with the date, time, and location at least ten working days before collecting soil samples.

(m) The dairy operator shall ensure that soil samples are analyzed in accordance with the procedures and laboratory analysis requirements in §321.36(g) of this title (relating to Texas Pollutant Discharge Elimination System General Requirements for Concentrated Animal Feeding Operations (CAFOs)). The dairy CAFO operator shall furnish to the appropriate regional office and the commission's Office of Compliance and Enforcement, Enforcement Division, soil testing analysis of all soil samples within 60 days of the date the samples were taken in accordance with the requirements of this subchapter.

(n) If the samples tested under subsection (m) of this section show a phosphorus level in the soil of more than 500 ppm in Zone 1 (zero to six inches) depth, the operator shall file with the executive director a new or amended NUP with a phosphorus reduction component based on crop removal that is certified as acceptable by a person described in §321.40(k)(3) of this title.

(o) If the samples tested under subsection (m) of this section show a phosphorus level in the soil of more than 200 ppm but not more than 500 ppm in Zone 1 (zero to six inches) depth, the operator shall:

(1) file with the executive director a new or amended NUP with a phosphorus reduction component based on crop removal that is certified as acceptable by a person described in §321.40(k)(3) of this title; or

(2) show that the level is supported by a NUP that is certified as acceptable by a person described under §321.40(k)(3) of this title.

(p) If the owner or operator of a waste application field is required by this section to have a NUP with a phosphorus reduction component based on crop removal, and if the results of tests performed on composite soil samples collected 12 months or more after the plan is filed do not show a reduction in phosphorus concentration in Zone 1 (zero to six inches) depth, then the owner or operator is subject to enforcement action at the discretion of the executive director. The executive director, in determining whether to take an enforcement action, shall consider any explanation presented by the owner or operator regarding the reasons for the lack of phosphorus reduction, including, but not limited to, an act of God, meteorologic conditions, diseases, vermin, crop conditions, or variability of soil testing results.

(q) The dairy operator shall inspect the irrigation system to prevent discharges. If a discharge from an irrigation system within the major sole-source impairment zone is documented as a violation, then the CAFO operator shall, if required by the executive director, install an automatic emergency shutdown or alarm system to notify the operator of system problems.

(r) The dairy operators are prohibited from land application of manure, litter, or wastewater in a major sole-source impairment zone between midnight and 4 a.m.

(s) All dairy CAFOs in a major sole-source impairment zone shall develop and operate under a comprehensive nutrient management plan (CNMP) certified by the Texas State Soil and Water Conservation Board. This CNMP shall be implemented not later than December 31, 2006.

(t) In addition to the requirements of §321.44 of this title (relating to Concentrated Animal Feeding Operation (CAFO) Notification Requirements), a dairy CAFO operator in a major sole-source impairment zone must comply with this subsection. In the event of a discharge from the RCS or LMU during a chronic or catastrophic rainfall event or resulting from catastrophic conditions, the dairy CAFO operator shall orally notify the appropriate regional office within one hour of the discovery of the discharge. The operator shall send written notification to the appropriate regional office within 14 working days.

(u) Any dairy CAFO operator to whom this section applies who has an unauthorized discharge from the RCS and who used the SPAW certification method for the margin of safety shall, within 90 days of written notification by the executive director, develop and implement the capacity for a 25-year, ten-day margin of safety. Upon written request, the executive director may grant a variance from the 90-day time requirement.

(v) Any dairy CAFO operator to whom this section applies shall, in the event of a discharge from an RCS or LMU, submit a report to the appropriate regional office

showing the facility records that substantiates that the overflow was a result of cumulative rainfall that exceeded the volume of storage capacity and margin of safety without the opportunity for dewatering, and was beyond the control of the operator. After review of the report, if required by the executive director, the operator shall have an engineering evaluation by a licensed Texas professional engineer developed and submitted to the executive director. This requirement is in addition to the discharge notification requirement in this subchapter.

(w) For additional protection in the major sole-source impairment zone, dairy CAFO operators who utilize LMUs must:

(1) adhere to the vegetative buffer required by §321.40(h) of this title;

(2) install and maintain a filter strip or vegetative barrier, according to NRCS Codes 393 or 601, between the vegetative buffer and land application area; and

(3) install and maintain contour buffer strips, according to NRCS Code 332, in the land application area nearest to the vegetative barrier or filter strip.

Adopted June 23, 2004

Effective July 15, 2004

§321.43. Air Standard Permit for Animal Feeding Operations (AFOs).

(a) Air quality authorization required. All animal feeding operations (AFOs), regardless of size, are required to obtain air quality authorization under the Texas Clean Air Act, Texas Health and Safety Code, Chapter 382, Subchapter C. AFOs may obtain air quality authorization in one of the following ways:

(1) by meeting the requirements of a permit by rule under Chapter 106, Subchapter F of this title (relating to Animal Confinement);

(2) by obtaining an individual permit under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification);
or

(3) by meeting the requirements in this section and the general conditions for air standard permits in §116.615 of this title (relating to General Conditions).

(b) Applicability. The air standard permit requirements in this section and in §116.615 of this title are applicable to all portions of AFOs including permanent odor sources, land management units, and associated operations. The air standard permit requirements are also applicable to associated feed handling or feed milling operations (including, but not limited to, natural gas-fired boilers, milling equipment, and grain

cleaners) located on the same site. This air standard permit may not be used to authorize the construction or operation of unassociated operations or equipment, including incinerators or emergency generators, located at the AFO.

(c) Water quality authorization. Authorization under this air standard permit may be obtained by AFOs with water quality authorization under:

- (1) a Texas Pollutant Discharge Elimination System permit;
- (2) a state-only water quality general permit;
- (3) a state-only individual water quality permit; or
- (4) a permit by rule under this subchapter.

(d) Air standard permit in lieu of individual permit. A concentrated animal feeding operation (CAFO) or other AFO that obtains water quality authorization as provided in subsection (c) of this section, and also satisfies the air quality requirements contained in this section qualifies for an air standard permit in lieu of an individual air quality permit under Chapter 116 of this title.

(e) Obtaining the air standard permit for AFOs. The air standard permit may be obtained in conjunction with a water quality application for an individual or CAFO general permit. If no water quality application is pending, a separate written request for authorization under the AFO air standard permit may be submitted that must indicate that the AFO will comply with all the requirements in this section. Registration for authorization to operate under the air standard permit is not required.

(f) Fee. There is no fee for the air standard permit for AFOs.

(g) Facilities not eligible. A CAFO or other AFO does not qualify for authorization under the air standard permit if:

- (1) the CAFO or other AFO does not have water quality authorization; or
- (2) the CAFO or other AFO constitutes a new major source or is located at a site that constitutes a major source as defined by Chapter 116 of this title.

(h) Dual authorization. No person may concurrently hold both an individual permit under Chapter 116 of this title and authorization under this air standard permit for the same AFO and associated facilities. This does not preclude the operator from holding individual permits or other applicable authorizations for facilities not authorized by this air standard permit.

(i) Restriction on use of permit by rule. An AFO authorized under this air standard permit may not claim authorization under §106.532 of this title (relating to Water and Wastewater Treatment) to construct a new retention control structure (RCS).

(j) Requirements for air standard permit authorization. AFOs shall meet the following requirements.

(1) Air emission limitations.

(A) Facilities shall be operated in such a manner as to prevent the creation of a nuisance as defined by Texas Health and Safety Code, §341.011 and §321.32(32) of this title (relating to Definitions), and as prohibited by §101.4 of this title (relating to Nuisance). Facilities shall be operated in such a manner as to prevent a condition of air pollution as defined by Texas Health and Safety Code, §382.003(3).

(B) The AFO operator shall take necessary action to identify any nuisance condition that occurs. The AFO operator shall take action to abate any nuisance condition as soon as practicable or as specified by the executive director.

(2) Buffer requirements. The buffer requirements in the following table apply to all of the requirements in subparagraphs (A) - (F) of this paragraph.

AFO Status and Proposed Action	Buffer Option 1	Buffer Option 2
Construction of an AFO that started or plans to start operations after August 19, 1998.	1/2 mile buffer	1/4 mile buffer and an odor control plan in accordance with subparagraph (F) of this paragraph
Expansion of an AFO that started operations after August 19, 1998.	1/2 mile buffer	1/4 mile buffer and an odor control plan in accordance with subparagraph (F) of this paragraph
Continued operation of an AFO that was in operation on or before August 19, 1998.	1/4 mile buffer	odor control plan in accordance with subparagraph (F) of this paragraph

Expansion or modification of an AFO that was in operation on or before August 19, 1998.	1/4 mile buffer	odor control plan in accordance with subparagraph (F) of this paragraph
---	-----------------	---

(A) The determination of whether the applicable buffer requirements are satisfied shall be made on the basis of conditions existing at the earlier of:

(i) the date new construction, expansion, or modification of a facility begins; or

(ii) the date any application or notice of intent is first filed with the commission to obtain approval for the construction or operation of the facility.

(B) The operator of an AFO shall document that the applicable buffer requirement is satisfied in accordance with this paragraph. The operator of an AFO shall maintain such documentation on site and make it available upon request by any representative of the commission.

(C) The buffer distance shall be measured from the nearest edge of the permanent odor sources to the nearest edge of any occupied residence or business structure, school (including associated recreational areas), permanent structure containing a place of worship, or public park.

(D) Written consent, including a letter as defined by §321.32(26) of this title, easement, or lease agreement specifically consenting to location and operation of permanent odor sources at an AFO within the required minimum buffer distance in this paragraph from the owner of the land containing each occupied residence or business structure, school (including associated recreational areas), permanent structure containing a place of worship, or public park located within the buffer distance may be obtained in lieu of satisfying the buffer distance requirements in this paragraph. Written consent from the governmental entity responsible for operating a school or public park, if the governmental entity is not the owner of the land containing the receptor, is required in addition to the consent of the owner of the land containing the receptor. An easement must be recorded with the county. The written consent must include the following information at the time the actions specified in this paragraph occur:

(i) the name, physical address, mailing address, and phone number of the owner(s) of the land containing the receptor and of the governmental entity responsible for the operation of the receptor, if applicable;

(ii) the types of animals and maximum number of animals to be confined under the AFO operator's current and/or anticipated authorization;

(iii) a description of the activity within the buffer distance for which the owner of the land containing the receptor and the governmental entity responsible for the operation of the receptor, if applicable, is giving consent;

(iv) the description and location of permanent odor sources located or proposed to be located within the buffer distance;

(v) an acknowledgment by the owner of the land containing the receptor located within the buffer distance, and by the governmental entity responsible for the operation of the receptor, if applicable, that the consent for the owner of the land containing the AFO to locate and operate permanent odor sources within the buffer distance excuses the operator of the AFO from otherwise applicable legal requirements; and

(vi) the verified signature of the owner(s) of the land containing the receptor, and of the governmental entity responsible for the operation of the receptor, if applicable, who is consenting to the location or operation of the AFO within the buffer distance.

(E) An area land use map as defined by §321.32(5) of this title, an odor control plan, if required by this paragraph, and documentation and copies of the written consent required in subparagraph (D) of this paragraph shall be kept on site and made available upon request by the executive director.

(F) The odor control plan, if required by this paragraph, shall be developed and implemented to control and reduce odors, dust, and other air contaminants, as defined by §321.32(2) of this title, from the AFO. The plan shall identify all structural and management practices that the operator will employ to minimize odor and control air contaminants at the AFO. At a minimum, the plan shall include, where applicable, procedures for manure/litter collection, manure, litter, and wastewater storage and treatment, land application, dead animal handling, and dust control. If the executive director determines that the implementation and employment of these practices is not effective in controlling dust, odors, and other air contaminants, the operator shall include any necessary additional abatement measures in the odor control plan and implement those measures to control and reduce these contaminants within the time period specified by the executive director.

(3) Wastewater treatment. Operators of AFOs that produce process-generated wastewater (excluding water trough overflow in open lots and wastewater from boiler operations) shall design and operate RCSs to minimize odors in accordance

with accepted engineering practices. Each system shall be operated in accordance with the design and an operation and maintenance plan that minimizes odors.

(A) Accepted engineering practices to minimize odors include anaerobic treatment lagoons, aerobic treatment lagoons, or other equivalent technology. The retention control structures shall also meet the design criteria specified for water quality in this subchapter.

(B) Accepted design standards and requirements for each of these methods of treatment are:

(i) an anaerobic treatment lagoon shall be designed in accordance with American National Standards Institute/American Society of Agricultural Engineers EP403.3 July 1999 (or subsequent updates); Natural Resources Conservation Service (NRCS), Field Office Technical Guidance, Practice Standard 359, Waste Treatment Lagoon, or the equivalent for the control of odors. The primary lagoon in a multi-stage lagoon system shall be designed with a minimum treatment volume so that the lagoon maintains a constant level at all times unless prohibited by climatic conditions. A multi-stage lagoon system shall be designed to minimize the amount of contaminated storm water runoff entering the primary lagoon by routing the contaminated storm water runoff into a secondary RCS;

(ii) aerobic treatment lagoons shall be designed in accordance with NRCS, Field Office Technical Guidance, Practice Standard 359, Waste Treatment Lagoon; or technical requirements for sizing the aeration portion of the system located in Chapter 317 of this title (relating to Design Criteria for Sewerage Systems); and

(iii) equivalent technology or design standards shall indicate how the design of the AFO minimizes odors equivalent to an aerobic or anaerobic lagoon. These designs shall be developed and certified by a licensed Texas professional engineer. An "as-built" certification in letter form shall be completed by a licensed Texas professional engineer before operation of the AFO. These documents shall be maintained on site and made available within the time period specified by the executive director.

(4) Dust control. To minimize dust emissions, the AFO shall be operated and maintained as follows.

(A) Fugitive emissions from all grain receiving pits, where a pit is used, shall be minimized through the use of "choke feeding" or through an equivalent method of control. If choke feeding is used, operation of conveyors associated with receiving shall not commence until the receiving pits are full.

(B) As necessary, emissions from all in-plant roads, truck loading and unloading areas, parking areas, and other traffic areas shall be controlled with one or more of the following methods to minimize nuisance conditions and maintain compliance with all applicable commission requirements:

- (i) sprinkled with water;
- (ii) treated with effective dust suppressant(s); or
- (iii) paved with a cohesive hard surface and cleaned.

(C) All non-vehicular external conveyors or other external conveying systems associated with the feedmill shall be enclosed.

(D) On-site feed milling operations with processing equipment using a pneumatic conveying system (which may include, but are not limited to, pellet mill/pellet cooler systems, flaker systems, grinders, and roller-mills) shall vent the exhaust air through a properly-sized high efficiency cyclone collector or an equivalent control device before releasing the exhaust air to the atmosphere. This requirement does not include cyclones used as product separators.

(E) If the executive director determines that the implementation and employment of these practices is not effective in controlling dust, the operator shall implement any necessary additional abatement measures to control and minimize this contaminant within the time period specified by the executive director.

(5) Maintenance and housekeeping. The AFO operator shall comply with the following to help prevent nuisance conditions.

(A) The premises shall be maintained to prevent the occurrence of nuisance conditions from odors and dust. Spillage of any raw products or waste products causing a nuisance condition shall be picked up and properly disposed of daily.

(B) Proper pen drainage shall be maintained at all times. Earthen pen areas shall be maintained by scraping uncompacted manure and shaping pen surfaces as necessary to minimize odors and ponding.

Adopted February 21, 2007

Effective March 15, 2007

§321.44. Concentrated Animal Feeding Operation (CAFO) Notification Requirements.

(a) Discharge notification. If for any reason there is a discharge to water in the state, the concentrated animal feeding operation (CAFO) operator shall notify the appropriate regional office orally within 24 hours of becoming aware of the discharge or by the next business day and in writing within 14 business days of the discharge from the retention control structure or any component of the manure handling or land application system to the Office of Compliance and Enforcement, Enforcement Division. In addition, the operator shall document the following information, keep the information on site, and submit the information to the appropriate regional office within 14 business days of becoming aware of such discharge. The notification must include:

(1) a description and cause of the discharge, including a description of the flow path to the receiving water body;

(2) an estimation of the volume discharged;

(3) the period of discharge, including exact dates and times, and, if not corrected, the anticipated time the discharge is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the discharge;

(4) if caused by a precipitation event(s), the date(s) of the event(s) and the rainfall amount(s) recorded from the on-site rain gauge;

(5) results of analysis as required by subsection (b) of this section; and

(6) any upset which exceeds any effluent limitation in the permit or authorization.

(b) Discharge monitoring. A permit or authorization will establish requirements for sample collection and analysis, sample type and frequency, and the parameters to be monitored.

(1) The effluent shall be analyzed by a National Environmental Laboratory Accreditation Conference accredited lab for the following parameters:

(A) *Escherichia coli*;

(B) five-day biochemical oxygen demand (BOD 5);

(C) total suspended solids (TSS);

(D) Ammonia Nitrogen (as N);

(E) Nitrate (as N);

(F) total dissolved solids (TDS);

(G) total phosphorus (as P); and

(H) any pesticide which the operator has reason to believe could be in the discharge.

(2) If the operator is unable to collect samples due to climatic conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.), the operator shall document why discharge samples could not be collected. Once dangerous conditions have passed, the operator shall conduct the required sampling and analyses.

(3) In the event that a discharge occurs outside of the normal business hours of the testing laboratory, which causes the maximum hold time to lapse, the operator shall collect a secondary sample from the retention control structure, and have it analyzed on the first business day for each parameter where the maximum hold time is exceeded.

(c) Construction notification. After all initial construction activity has been completed, and before beginning operations, an operator of a new CAFO must notify the appropriate regional office orally that the facility is commencing operations.

Adopted July 2, 2014

Effective July 31, 2014

§321.45. Concentrated Animal Feeding Operation (CAFO) Training Requirements.

(a) Employee training. A permit or authorization will establish requirements for training of employees who are responsible for work activities relating to compliance with provisions of this subchapter that address all levels of job responsibility associated with compliance with this subchapter.

(b) Dairy outreach program area operator training. The operator of a dairy concentrated animal feeding operation (CAFO) located in §321.32(17) of this title (relating to Definitions) shall attend and complete training developed by the executive director and the Texas Cooperative Extension as follows:

(1) an eight-hour course or its equivalent on animal waste management within 12 months of receiving initial authorization under this subchapter; and

(2) at least eight additional hours of continuing education on animal waste management or its equivalent for each two-year period after completing the requirements of paragraph (1) of this subsection.

Adopted June 23, 2004

Effective July 15, 2004

§321.46. Concentrated Animal Feeding Operation (CAFO) Pollution Prevention Plan, Site Evaluation, Recordkeeping, and Reporting.

(a) Pollution prevention plan (PPP).

(1) A permit or authorization will establish requirements for the development of a PPP. PPPs shall be prepared in accordance with good engineering practices and shall include measures necessary to limit the discharge of pollutants to or adjacent to water in the state. The plan shall describe and ensure the implementation of practices which are to be used to assure compliance with the limitations and conditions of this subchapter. The plan shall identify a specific individual(s) at the facility who is responsible for development, implementation, operation, maintenance, inspections, recordkeeping, and revision of the PPP. The activities and responsibilities of the pollution prevention personnel shall address all aspects of the facility's PPP.

(2) The plan shall be signed by the operator or other signatory authority in accordance with §305.44 of this title (relating to Signatories to Applications), and the plan shall be retained on site.

(3) Upon completion of a PPP review, the executive director may notify the operator of a concentrated animal feeding operation (CAFO) at any time that the plan does not meet one or more of the minimum requirements of this subchapter. After such notification from the executive director, the operator shall make changes to the plan within 90 days after such notification, unless otherwise provided by the executive director.

(4) The operator of the CAFO shall revise the plan:

(A) before any change in the acreage or boundaries of land management units (LMUs);

(B) before any increase in the maximum number of animals;

(C) before operation of any new control facilities;

(D) before any change which has a significant effect on the potential for the discharge of pollutants to water in the state;

(E) if the PPP is not effective in achieving the general objectives of controlling discharges of pollutants from the production area or LMU(s); or

(F) within 90 days following written notification from the executive director that the plan does not meet one or more of the minimum requirements of this section.

(5) Where design, planning, construction, operation and maintenance, or other documentation equivalent to PPP requirements are contained in site specific-plans prepared and certified by the Natural Resources Conservation Service (NRCS), Texas State Soil and Water Conservation Board, or their designee, that information may be used to document best management practices (BMPs) or applicable portions of the technical requirements in this subchapter. Where provisions in the certified plan are substituted for applicable BMPs or portions of the PPP, the PPP must refer to the appropriate section of the certified plan. If the PPP contains a reference to a certified plan, a copy of the certified plan must be kept with the PPP.

(6) Potential pollutant sources include any activity or material of sufficient quantity that may reasonably be expected to add pollutants to surface water in the state from the facility. The owner shall conduct a thorough site inspection of the facility to identify all potential pollutant sources. The inspection shall include all land that is part of the production area and LMUs. An evaluation of pollutant sources shall identify the types of potential pollutant sources, provide a description of the pollutant sources, and indicate all measures that will be used to prevent contamination from the pollutant sources.

(7) The operator shall maintain and update the following items as part of the PPP:

(A) a site map, showing the production area and include, at a minimum, pens and open lots, barns, berms, permanent manure storage areas, composting areas, control facilities including retention control structures (RCSs), water wells (abandoned and in use), surface water in the state, and dead animal burial sites; including a depiction of buffer zones and setbacks;

(B) LMU Map, showing the boundary and acreage of each LMU; all buffer zones, the location of the production area, water wells (abandoned and in use) that are onsite or within 500 feet of the facility boundary, all surface water in the state located onsite and within one mile of the facility boundary, and the facility boundary.

(C) soil, crop, and crop nutrient information;

(D) a description of land application procedures and equipment used; and

(E) a description of BMPs utilized to minimize the entry of uncontaminated runoff into the control facility and RCS.

(b) Management documentation. A permit or authorization will establish additional requirements for recordkeeping and documentation. At a minimum, these records must include:

(1) a copy of the administratively complete and technically complete individual water quality permit application, notice of intent seeking authorization under a CAFO general permit, and the written authorization issued by the commission or executive director, for any facility required to obtain written authorization;

(2) the RCS management plan, if applicable;

(3) procedures for spill prevention and recovery;

(4) a copy of the recharge feature certification, if applicable;

(5) the groundwater monitoring plan associated with the use of a playa;

(6) a copy of the comprehensive nutrient management plan, nutrient management plan or nutrient utilization plan, if required;

(7) site-specific documentation that no significant hydrologic connection exists between the contained wastewater and water in the state;

(8) any written agreement with a landowner which documents the allowance of nighttime application of manure, sludge, or wastewater;

(9) the odor control plan requirements established in §321.43 of this title (relating to Air Standard Permit for Animal Feeding Operations (AFOs)); and

(10) documentation of employee training, including dates when training occurred and, for dairy outreach program area (DOPA)-required training, verification of the date, time of attendance, and completion of training.

(c) Required inspections. The CAFO operator shall perform the routine inspections described in 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 that are located within the drainage area of the RCSs. These daily inspections shall be recorded in the PPP either daily or in the weekly report.

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

(3) CAFO operators shall conduct monthly inspections on mortality management systems, including containers, burial sites, composting facilities, incinerators, and chemical storage and disposal areas.

(4) A complete site inspection of the CAFO and LMUs shall be conducted and documentation of the findings of the inspection made at least once per year. The inspection shall include:

(A) a review of the list of potential pollutant sources to ensure it is current;

(B) the inspection of all controls and operations outlined in the PPP to reduce the potential for pollutants to be transported off the CAFO; and

(C) updating the PPP to reflect the current conditions.

(5) Once every five years, beginning five years after initial authorization under this subchapter, any CAFO operator who uses an RCS shall have a licensed Texas professional engineer review the existing engineering documentation, complete a site evaluation of the structural controls, and review existing liner documentation. The engineer shall complete and certify a report of their findings that must be kept with the PPP.

(d) Recordkeeping requirements. The CAFO operator shall keep records in the PPP for a minimum of five years from the date the record was created. Upon written request, any of the records maintained to comply with the permit shall be submitted to the executive director within five business days of the operator receiving the request. The records shall document the inspections and actions taken in response to deficiencies

identified during any inspection. A CAFO operator shall correct all the deficiencies within 30 days or shall document the factors preventing immediate correction and submit to the executive director an explanation of the factors that prevented the correction of the deficiencies. Any CAFO operator that does not use an RCS is not subject to paragraphs (3) - (6) and (8) of this subsection. The following records must be included unless otherwise specified:

(1) a list of any significant spills of potential pollutants at the CAFO that have a significant potential to reach water in the state;

(2) a log of wastewater, manure, and sludge removed from the CAFO, other than single pickup truck loads, that shows the dates and times of removal from the CAFO, name and address of the recipient, amount (in wet tons, dry tons, cubic yards, acre-inches, acre-feet, or gallons) of manure, sludge, or wastewater;

(3) a log of all daily measurable rainfall events, including the measured rainfall;

(4) a log of all weekly wastewater levels observed in the RCS, or daily wastewater levels in a major sole-source impairment zone;

(5) documentation of liner maintenance by an NRCS engineer, licensed Texas professional engineer, or qualified groundwater scientist;

(6) 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;

(7) groundwater monitoring records, if required by §321.41 of this title (relating to Special Requirements for Discharges to a Playa);

(8) records that show the control facilities have been inspected for structural integrity and maintenance, the date of each inspection, and a description of the findings;

(9) records describing mortality management practices;

(10) a log of all manure, sludge, and wastewater used at the CAFO updated at least monthly. For CAFOs where manure, sludge, or wastewater is applied on LMUs, such records must include the following information:

(A) date of manure, sludge, or wastewater application to each LMU;

(B) location of the specific LMU and the volume applied during each application event;

(C) acreage of each individual crop on which manure, sludge, or wastewater is applied;

(D) basis for and the total amount of nitrogen and phosphorus applied per acre to each LMU, including sources of nutrients other than manure, sludge, or wastewater on a dry basis;

(E) the percentage of moisture content of the manure;

(F) actual annual yield of each harvested crop; and

(G) weather conditions (such as the temperature, precipitation, and cloud cover) during the land application and 24 hours before and after the land application;

(11) annual nutrient analysis for irrigation wastewater, sludge, if applicable, and manure;

(12) documentation describing any 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 the discharge;

(13) the results of initial and annual soil analysis reports as required by this subchapter; and

(14) copies of all notifications to the executive director, including any made to a Texas Commission on Environmental Quality regional office, as required by this subchapter, a permit, or authorization.

(e) Reporting requirements.

(1) The CAFO operator shall furnish to the appropriate regional Texas Commission on Environmental Quality office and the commission's Office of Compliance and Enforcement, Enforcement Division in Austin, soil testing analysis of all soil samples with the annual report due February 15 of each year.

(2) CAFO operators shall provide all other reports required by this subchapter to the Office of Compliance and Enforcement, Enforcement Division.

§321.47. Requirements for Animal Feeding Operations (AFOs) Not Defined or Designated As Concentrated Animal Feeding Operations (CAFOs).

(a) Purpose. This section provides an animal feeding operation (AFO) that is not defined or designated as a concentrated animal feeding operation (CAFO) authorization to operate, and identifies the operational requirements necessary to achieve the purposes of this subchapter.

(b) Applicability.

(1) Except as identified in paragraph (2) of this subsection, the owner or operator of an AFO not defined or designated as a CAFO who uses a control facility to manage manure, sludge, or wastewater generated on site shall comply with all the requirements of this section.

(2) The owner or operator of an AFO not defined or designated as a CAFO who qualifies for, obtains, and is operating under a certified water quality management plan from the Texas State Soil and Water Conservation Board (TSSWCB) and subsection (c)(1) - (4) of this section are considered to meet all technical requirements of this section.

(3) The owner of an AFO not defined or designated as a CAFO who uses an alternative treatment practice, such as filter strips (Natural Resources Conservation Service (NRCS) Code 393), constructed wetlands (NRCS Code 656), or vegetated treatment areas (NRCS Code 635), instead of a control facility to manage manure, sludge, or wastewater generated on site shall comply with all the requirements of this section except the requirements mentioned in subsection (d) and (e) of this section.

(c) General requirements.

(1) An AFO operator must locate, construct, and manage the control facility, alternative treatment practice, and land management unit (LMU) in a manner that will protect surface and groundwater quality.

(2) An AFO operator must prevent nuisance conditions and minimize odor conditions in accordance with the requirements of §321.31(b) of this title (relating to Manure, Litter, and Wastewater Discharge and Air Emission Limitations).

(3) Proper pen drainage shall be maintained at all times. Earthen pen areas shall be maintained to ensure good drainage by scraping uncompacted manure and shaping pen surfaces as necessary to minimize odors and ponding.

(4) An AFO shall not expand operations, either in size or numbers of animals, before amending or enlarging the manure handling procedures and structures to accommodate all additional manure that will be generated by the expanded operations.

(5) As applicable to the operation, the production area of a new or expanding AFO must comply with the requirements of §321.41 of this title (relating to Special Requirements for Discharges to a Playa).

(6) All control facilities, alternative treatment practices, holding pens, and retention control structures (RCSs) must be located outside of the 100-year flood plain unless the structures are protected from inundation and damage that may occur during the 100-year flood event.

(7) Where applicable, equivalent measures contained in a site-specific plan which meet the requirements of this subchapter may be substituted for applicable best management practices and/or portions of the technical requirements in this subchapter. Equivalent measures may be contained in:

(A) United States Department of Agriculture (USDA) - NRCS Field Office Technical Guide for Texas; or

(B) TSSWCB rules; or

(C) a certified water quality management plan certified by the TSSWCB; or

(D) a comprehensive nutrient management plan (CNMP) certified by the TSSWCB, the USDA - NRCS, or their designee.

(8) The AFO operator shall adhere to the well buffer requirements in §321.38(b) of this title (relating to Control Facility Design Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs)) and §321.40(g) of this title (relating to Concentrated Animal Feeding Operation (CAFO) Land Application Requirements).

(d) Control facilities.

(1) The AFO operator shall minimize entry of uncontaminated runoff into RCSs. Such measures may include the construction of berms, embankments, or similar structures.

(2) The AFO may discharge from the production area if the discharge is the result of a chronic or catastrophic rainfall event, or catastrophic condition that exceeds

the design capacity of an RCS that has been properly designed, constructed, operated, and maintained. RCSs shall be designed in accordance with §321.38 of this title.

(3) The AFO operator constructing a new or modifying an existing RCS shall ensure that all construction and design is certified by a licensed Texas professional engineer. The certification shall be signed and sealed in accordance with the requirements of the Texas Board of Professional Engineers. All RCS design and construction shall, at a minimum, be in accordance with the technical standards developed by the NRCS, American Society of Agricultural and Biological Engineers, American Society of Civil Engineers, American Society of Testing Materials, or other technical standards approved by the executive director, that are in effect at the time of construction. Where site-specific variations are warranted, the operator must ensure a licensed Texas professional engineer documents these variations and their appropriateness to the plan.

(4) Existing RCSs that have been properly maintained without any modifications and have no apparent structural problems or leakage will be considered to be properly designed and constructed with respect to the RCS sizing, embankment design and construction, and liner requirements of this subchapter, provided that any required documentation was completed in accordance with the requirements at the time of construction. If no documentation exists, the RCS must be certified by a licensed Texas professional engineer as providing protection equivalent to the requirements of this section. Structures built in accordance with site-specific NRCS plans and specifications will be considered to be in compliance with the design and capacity requirements of this subchapter if the site-specific conditions are the same as those used by the NRCS to develop the plan (numbers of animals, runoff area, manure generated, etc.) and the RCS is operated and maintained in accordance with NRCS requirements.

(5) RCS embankments and liners shall be designed and constructed in accordance with the requirements of §321.38 of this title.

(6) The AFO operator must maintain copies of documentation of the sources of information, assumptions, and calculations used in determining the appropriate volume capacity of the RCSs.

(7) An irrigation system or other liquid manure removal system used by an AFO must be designed to ensure that the system is capable of dewatering the RCSs on a regular schedule. RCSs shall be equipped with irrigation, or wastewater removal systems capable of dewatering the RCSs whenever needed to restore the operating capacity. Dewatering equipment shall be maintained in proper working order.

(8) Sludge shall be removed from RCSs to prevent the accumulation of sludge from encroaching on other required storage volumes.

(e) Operation and maintenance.

(1) Sufficient volume shall be maintained at all times within the RCS to accommodate sludge, wastewaters, and contaminated stormwater (rainwater runoff and direct precipitation) from the AFO facility.

(2) The operator shall restore such capacity after each rainfall event or accumulation of manure, sludge, or process-generated wastewater that reduces such capacity, when conditions are favorable for irrigation. Favorable conditions shall be when the soil moisture level decreases so that irrigation will not cause runoff.

(3) The normal operating wastewater level in the RCS shall be maintained within the design of the RCS. If the water level in the RCS encroaches into the storage volume reserved for the design rainfall event the operator must document the conditions that resulted in this occurrence. As soon as irrigation is not prohibited, the AFO operator shall irrigate until the water level is at or below the design rainfall level.

(4) Adequate equipment shall be available and maintained in good working order to remove such manure, sludge, and wastewater from the RCS as required to maintain the required volume in compliance with this subchapter.

(5) A rain gauge capable of measuring the design rainfall event shall be installed on site and properly maintained.

(6) The AFO operator shall install and maintain a permanent pond marker in the RCS, visible from the top of the embankment that identifies, either physically or by onsite documentation, the volume required for the design rainfall event.

(7) The AFO operator shall ensure that liners are protected from animals by fences or other protective devices. No tree shall be allowed to grow such that the root zone would intrude or compromise the structure of the liner or embankment. Any mechanical or structural damage to the liner shall be evaluated by a licensed Texas professional engineer within 30 days following discovery of the damage.

(8) The AFO operator shall maintain ponds, pipes, ditches, pumps, and diversion and irrigation equipment to ensure ability to fully comply with the terms of this subchapter.

(9) An AFO operator using a liquid manure handling system shall scrape or flush accumulated manure at least once per week or in accordance with proper design and maintenance of the facility.

(10) If an RCS is in danger of imminent overflow from chronic or catastrophic rainfall or catastrophic conditions, the AFO operator shall take reasonable steps to irrigate wastewater to LMUs only to the extent necessary to prevent overflow from the RCS.

(f) Land application.

(1) The runoff of manure, sludge, or wastewater to water in the state as the result of the application of manure, sludge, or wastewater from an AFO is authorized provided the land application activity is implemented in accordance with a plan for nutrient management detailed in this section.

(2) The AFO operator shall apply manure, sludge, and wastewater uniformly to suitable land at appropriate times and at agronomic rates. Timing and rate of applications shall be in response to crop needs, assuming usual nutrient losses, expected precipitation, and soil conditions.

(3) The AFO operator shall develop and utilize the information in this paragraph for land application unless a nutrient management plan (NMP) is developed and implemented. At that time, the NMP must be followed for land application. The AFO operator must adhere to the following:

- (A) a site map showing the location of all LMUs;
- (B) the location, description, and limitations of the major soil types within the identified LMUs, and a plan to address the soil limitations;
- (C) crop types and rotations to be implemented on an annual basis;
- (D) predicted yield goals based on the major soil types within the identified LMUs;
- (E) procedures for calculating nutrient budgets to be used to determine application rates;
- (F) a detailed description of the type of equipment and method of application to be used in applying the manure, sludge or wastewater; and
- (G) projected rates and timing of application of the manure, sludge, and wastewater as well as other sources of nutrients that will be applied to the LMUs.

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

(5) Application rates of manure, sludge, and wastewater shall not exceed the crop requirement of the crop or planned crop planting. Land application rates of manure sludge, and wastewater shall be based on the available nutrient content of the manure, sludge, and wastewater.

(6) 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 Operational Requirements Applicable to Concentrated Animal Feeding Operations (CAFOs)).

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

(8) The land application of manure, sludge, and wastewater at agronomic rates shall not be considered surface disposal and is not prohibited.

(9) Manure, sludge, 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.

(10) The AFO operator shall develop and maintain the calculations and assumptions used for determining land application rates and all nutrient analysis data.

(11) The AFO operator shall annually analyze at least one representative sample of irrigation wastewater and sludge, if applicable, and one representative sample of manure for total nitrogen, total phosphorus, and total potassium.

(12) Vegetative buffer strips shall be no less than 100 feet of vegetation to be maintained between manure, sludge, or wastewater application areas and surface water and watercourses. The AFO operator shall maintain the buffer strips in accordance with NRCS guidelines. 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. Land application of manure, sludge, and wastewater into surface water in the state is an unauthorized discharge and is prohibited.

(13) Manure and sludge storage capacity requirements based upon manure and sludge production, land availability, and NRCS or equivalent standards shall be

provided.. Manure or sludge stored for more than 30 days must be stored within the drainage area of an RCS, or stored in a manner (i.e. storage shed, bermed area, tarp covered area, etc.) that otherwise prevents contaminated stormwater runoff from the storage area. Storage for more than 30 days is prohibited in the 100-year flood plain.

(14) Temporary storage of manure and sludge shall not exceed 30 days and is allowed only in LMUs or an RCS drainage area. Temporary storage of manure or sludge in the 100-year flood plain, near water courses or recharge features is prohibited unless protected from inundation and damage that may occur during the 100-year flood event. Contaminated runoff from manure and sludge storage piles must be retained on site.

(15) Any dairy AFO that is located in the major sole-source impairment zone, as defined under §321.32 of this title (relating to Definitions), at a minimum must provide for management and disposal of manure in accordance with §321.42(i) of this title (relating to Requirements Applicable to the Major Sole-Source Impairment Zone).

(16) Nighttime application of liquid or solid manure shall be allowed only in areas with no occupied residence(s) within 1/4 mile from the outer boundary of the LMU receiving manure, sludge, or wastewater application. In areas with an occupied residence within 1/4 mile from the outer boundary of the LMU, application 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.

(17) AFOs 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).

(18) Composting on site at an AFO shall be performed in accordance with Chapter 332 of this title (relating to Composting). AFOs may compost manure generated on site, including manure, sludge, bedding, feed, and dead animals. In accordance with Chapter 332 of this title, an AFO operator may add agricultural products to provide an additional carbon source or bulking agent to aid in the composting process. If the compost areas are not roofed or covered with impermeable material, protected from external rainfall, or bermed to protect from runoff in the case of the design rainfall event, the compost areas shall be located within the drainage of the RCS. The runoff volume from compost areas shall be accounted for in the design of the RCS.

(19) Maintenance of animals.

(A) Animals confined at the AFO shall be restricted from coming into direct contact with surface water in the state through the use of fences or other controls.

(B) An AFO that maintains animals in pastures must maintain crops, vegetation, forage growth, or postharvest residues in the normal growing season, excluding the feed and water trough areas and designated open lots.

(g) Sampling and testing.

(1) Initial sampling. Before commencing application of manure, sludge, or wastewater on LMUs and before resuming land application on LMUs. Where manure, sludge, or wastewater was not applied during the preceding year, the operator shall:

(A) collect and analyze at least one representative sample of manure, sludge (if applicable) and wastewater for total nitrogen, total phosphorus, and total potassium;

(B) collect and analyze at least one representative soil sample from each LMU according to the procedures in paragraphs (4) and (5) of this subsection; and

(C) Utilize the results of these analyses in determining application rates for manure, sludge, and wastewater.

(2) Annual sampling. The operator shall:

(A) collect and analyze at least one representative sample of manure, sludge (if applicable), and wastewater, for total nitrogen, total phosphorus, and total potassium;

(B) collect and analyze at least one representative soil sample from each LMU where manure, sludge, or wastewater was applied during the preceding year according to the procedures in paragraphs (4) and (5) of this subsection; and

(C) utilize the results of these analyses in determining application rates for manure, sludge, and wastewater.

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

(4) 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 methods described in the agency's guidance RG-408 entitled "Soil Sampling for Concentrated Animal Feeding Operations."

(B) Samples shall be collected by the operator or its designee and analyzed by a soil testing laboratory annually.

(C) Obtain one composite sample for each LMU and per uniform soil type (soils with the same characteristics and texture) within the LMU.

(D) Composite samples shall be comprised of ten to 15 randomly sampled cores at a depth of zero to six inches.

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

(6) Soil samples shall be submitted to a soil testing laboratory along with a previous crop history of the site, intended crop use, and yield goal. Soil test reports shall include nutrient recommendations for the crop yield goal.

(h) Nutrient utilization plans (NUPs).

(1) Manure, sludge, or wastewater shall not be land applied to a LMU, unless the land application is implemented in accordance with a detailed NUP when results of the annual soil analysis for extractable phosphorus indicate:

(A) a level greater than 200 ppm; or

(B) a level greater than 350 ppm for an LMU where the average annual rainfall is 25 inches or less, erosion control is adequate to keep erosion at the soil loss tolerance (T) or less, and the closest edge of the field is more than one mile from a named stream; or

(C) if ordered by the commission to do so in order to protect water in the state.

(2) An NMP, based on crop removal, certified in accordance with NRCS Practice Standard Code 590 complies with the requirements of a complete and effective NUP.

(3) A NUP, based on crop removal, shall be developed by an employee of the NRCS, a nutrient management specialist certified by the NRCS, the TSSWCB, Texas AgriLife Extension Service, 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 American Registry of Certified Professionals in Agronomy, Crops and Soils, 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. No land application under an approved NUP shall cause or contribute to a violation of water quality standards or create a nuisance.

(4) Land application under the terms of the NUP may begin as soon as the plan is developed in accordance with this subsection. After a NUP has been implemented, the operator shall land apply in accordance with the NUP until soil phosphorus is reduced below 200 ppm. Thereafter, the AFO operator shall apply manure, litter, or wastewater at agronomic rates according to the requirements of this section.

(i) Recordkeeping requirements.

(1) Records required under this subsection must be kept on site for a minimum of five years from the date the record was created. Any AFO operator that does not use an RCS is not subject to subparagraphs (B) - (D) and (F). Unless otherwise specified, records shall include:

(A) a list of any significant spills of pollutants with the potential to reach water in the state;

(B) a schedule for liquid manure removal;

(C) a date log indicating weekly inspection of wastewater level in the RCS;

(D) a log of all measurable rainfall events;

(E) a copy of the results of initial and annual soils, manure, sludge, and wastewater analyses;

(F) records of dates of inspection of the RCS, and a log of the findings of such inspections;

(G) the groundwater monitoring plan associated with the use of a playa;

(H) site-specific documentation that no significant hydrologic connection exists between the wastewater in the RCS and water in the state;

(I) any written agreement with a landowner which documents the allowance of nighttime application of manure, sludge, or wastewater; and

(J) a copy of the NUP, if required.

(2) For facilities where manure, sludge, or wastewater is applied on LMUs, such records shall include the following information:

(A) the date of manure, sludge, or wastewater application to each field;

(B) the location of the specific LMU and volume or amount applied during each application event;

(C) the acreage of each individual crop on which manure, sludge, or wastewater is applied;

(D) the assumptions for calculating the total amount of nitrogen and phosphorus applied per acre to each field, including sources of nutrients other than manure, sludge, and wastewater on a dry basis;

(E) the percentage of moisture content of the manure and sludge; and

(F) the actual annual yield of each harvested crop.

(3) Where manure, sludge, or wastewater, if applicable, is sold or given to other persons for off-site land application or disposal, the operator must maintain a log of: the date of removal from the AFO; the name and address of the recipient; and the amount, in wet tons, dry tons, or cubic yards, of manure or gallons of wastewater removed from the AFO. (A single pickup load need not be recorded.)

(j) Documentation of liner maintenance. The operator shall have an NRCS engineer, licensed Texas professional engineer, or licensed Texas professional geoscientist review the documentation and conduct a site evaluation every five years.

(k) Groundwater monitoring. In the event that groundwater monitoring is required by §321.41 of this title or required by the executive director, the operator shall annually collect a groundwater sample from each well that provides water for the facility. Each sample shall be analyzed for nitrate as nitrogen and chloride where groundwater monitoring is required by §321.41 of this title and analyzed for nitrate as nitrogen, chloride, and total dissolved solids where groundwater monitoring is required by the executive director. The operator shall use the methods outlined in the groundwater monitoring plan, and compare the analytical results to the baseline data. Data from any required monitoring wells must be submitted to the executive director and kept on site for five years. The first year's sampling shall be considered the baseline data and must be retained on site for the life of the facility, unless otherwise provided by the executive director. If a 10% deviation in concentration of any of the sampled constituents is found, the operator must notify the executive director within 30 days of receiving the analytical results.

(l) Inspections. The AFO operator must conduct the following inspections to assure the facility maintains its efficiency. Records of inspections shall be maintained for a period of five years.

(1) Preventative maintenance program. The operator shall conduct weekly inspections of the control facility and land application equipment to determine preventative maintenance or repair needs. Operators that do not use an RCS are required to conduct inspections for applicable portions of their operation as required by this section. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system or the creation of a nuisance. Inspections shall include visual inspections and equipment testing to uncover conditions that could cause breakdowns or failures resulting in discharge of pollutants to water in the state or the creation of a nuisance condition.

(2) Site inspection. A complete inspection of the control facility and LMUs shall be done and a report documenting the findings of the inspection made at least once a year. The inspection shall be conducted by the operator to verify that the description of potential pollutant sources is accurate, and the controls necessary to reduce pollutants and avoid nuisance conditions are being implemented and are adequate. Records documenting significant observations made during the site inspection shall be retained.

(m) Notification. An existing or new AFO operator has the continuing obligation to provide the executive director notice of the number of animals in confinement in accordance with the following requirements.

(1) All new AFOs which confine a number of animals that fall within the range of the number of animals specified in any of the categories under §321.32(13)(B) of this title shall notify the executive director of their legal entity name, physical location

including a map or hand drawn sketch, mailing address, and number of head in confinement.

(2) Such notification shall be in writing and signed by the operator and shall be submitted not later than 180 days after commencement of operation.

(n) Closure required. The AFO operator shall properly close the AFO and RCS in accordance with a closure plan prepared by a licensed Texas professional engineer. The AFO and RCS must be closed within one year of permanently ceasing operations at the facility or an alternate schedule determined by a licensed Texas professional engineer. The closure plan for the RCS must be developed using standards contained in the NRCS Practice Standard Code 360 (Closures of Waste Impoundments, as updated) and using the guidelines contained in the Texas AgriLife Extension Service/NRCS publication #B-6122 (Closure of Lagoons and Earthen Manure Storage Structures, as updated). The RCS or AFO is considered to be properly closed upon certification by a licensed Texas professional engineer that closure is complete according to the closure plan. AFOs shall maintain compliance with the requirements of this subchapter until the facility has been properly closed.

Adopted July 2, 2014

Effective July 31, 2014