NEBRASKA ADMINSTRATIVE CODE

TITLE 130 - NEBRASKA DEPARTMENT OF WATER, ENERGY, AND ENVIRONMENT~~AL QUALITY~~

Chapter 14 – NUTRIENT MANAGEMENT PLAN REQUIREMENTS, FIELD ASSESSMENTS, AND PERFORMANCE STANDARDS

001 Each applicant for a permit under these regulations shall submit a nutrient management plan that includes at a minimum the following information as applicable:

001.01 Scaled drawings, topographic maps, or equivalent. Each drawing or map shall be easily readable and include a visual scale, a north directional arrow, a fixed geographic reference point, a permanent bench mark or fixed elevation reference point, the date the drawing or map was completed, and show:

001.01A The spatial location and extent of the animal feeding operation and livestock waste control facilities, including the various components of the facility such as areas designated for stockpiling, composting, or for temporary holding of dead animals, and the area immediately adjacent;

001.01B The location and entire extent of any drainage area controlled or diverted by the operation including the area immediately adjacent to such area with the runoff flow directions indicated;

001.01C The source of the animal feeding operation's water supply, all other wells, and the location of any wetlands or surface water within the boundaries or immediately adjacent to the facility;

001.01D The topography or clearly defined runoff flow direction in and around the operation and facilities, except in the case of small or medium animal feeding operations, consisting of confined buildings with underfloor pits or nearby storage structures that are on or above grade. Cross-sectional drawings may substitute, at the Department's discretion, for detailed topographic drawings or maps;

001.01E Details (such as size, dimensions, capacities, elevations, and materials) for all conveyance structures, for pipe inlets and outlets, pipe penetrations into or out of containment or conveyance structures, lift or pumping stations, liners, and for concrete (including expansion joint construction, reinforcement and joint construction, sealing details, and concrete specifications) and all other non-soil construction materials. A detailed table or figure with the

capacities shown at the staff gauge levels specified in Chapter 8, which include capacities at one-foot increments, and critical pumpdown or lagoon treatment levels as appropriate; and

001.01F United States Geological Survey Quadrangle Map(s), or equivalent scaled topographic maps, showing the geographic location of the animal feeding operation and the area extending 2,000 feet from the operation, including the location of all known wells, surface water bodies, homesteads, and businesses that at the time of application lie within 2,000 feet of the facility;

001.02 Estimates of the amounts of manure, litter and process wastewater produced;

001.03 A narrative description of the livestock waste control facilities and how they will function and operate;

001.04 Types of animals, the maximum animal capacity and the average animal weight for each animal type;

001.05 Design calculations for sizing of conveyances and storage facilities and diversion of clean water from the production area;

001.06 Depth and volume tables on at least one-foot increments for all storage facilities, with operating depths clearly identified as needed to maintain facilities to comply with effluent limitations; to maintain minimum treatment volumes in lagoons; and to maintain sludge and sediment accumulations at reasonably manageable levels;

001.07 Procedures for the proper handling and disposal of dead animals;

001.08 Procedures for the proper handling and disposal of chemicals;

001.09 A protocol using either a narrative rate approach or a linear approach as described in section 003 below to land apply manure, litter or process wastewater for the appropriate agricultural utilization of nitrogen from all sources, as well as the expected removal of nitrogen in the harvested plant biomass, and include a nutrient budget for nitrogen and phosphorus that:

001.09A Accounts for all sources of nutrients including, but not limited to, manure, litter, and process wastewater; commercial fertilizer; crop residues and

previous legume crops; soil organic matter; available nutrients in the soil; and irrigation water;

001.09B Specifies the form, source, amount, timing, and method of land application of nutrients on each field; and

001.09C Minimizes the movement of nitrogen to ground water and minimizes the movement of nitrogen and phosphorus to surface water;

001.10 For each field or field segment used for land application area:

001.10A The legal description and maps of planned waste application areas to be utilized by the operation;

001.10B A description of the field areas to be used including the number of useable acres, dominant soil type, cropping practices, historic yields with supporting documentation or published county average yields, a description of any setbacks or buffers, and use of the land by other animal feeding operations;

001.10C Maps or aerial photos which clearly show the location and extent of any surface water or wetlands within the boundaries of the field, as well as the location and extent of any surface water within 200 feet of the field;

001.10D For any areas not owned by the permittee or an owner or authorized representative of the operation, the landowner's name, address, legal description, number of acres and an agreement, signed by the landowner, that clearly identifies the area (legal description and field acres) and allows for the agronomic application of manure, litter, or process wastewater to the land;

001.10E Waste sampling and analytic methods, land application area soil sampling procedures including sampling depths, soil analytic methods, land application methods to be used, and procedures and assumptions used to determine appropriate application rates and frequencies, which comply with these regulations; and

001.10F Record keeping of locations and quantities of livestock wastes and other sources of nutrients land applied, and soil and waste sampling and testing results; and for manure, litter or process wastewater transferred to other persons,

the nutrient analysis results and the date, recipient name and address, and approximate amount transferred;

001.11 Sampling and laboratory testing as follows:

001.11A Manure, litter, and process wastewater at least annually for nitrogen and phosphorus content;

001.11B Application site soils for nitrogen content before the initial application of manure, litter, or process wastewater, and then sample and analyze at least annually thereafter if used for application;

001.11C Application site soils for phosphorus content before the initial application of manure, litter, or process wastewater and then at least once every five years thereafter if used for application;

001.11D Irrigation water prior to initial use and at least once every five years thereafter for nitrogen; and

001.11E University of Nebraska guidelines for sampling and analysis may be used. The Department may approve alternate methods as appropriate;

001.12 An application rate of liquid containing manure, litter, or process wastewater that shall not exceed the intake rate of the soil such that runoff of the manure, litter, or process wastewater occurs. Total liquid application shall not exceed the field capacity of the soil;

001.13 Site-specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants; and

001.14 A field phosphorus risk assessment conducted prior to initial land application of manure, litter, or process wastewater and then prior to subsequent applications if the risk value of any site category listed in Table 3 of Field Phosphorus Risk Assessment (Appendix ~~E~~A) has changed, but in no case less than once every five years. The assessment evaluates such factors as soil type, slope, crop residue, soil fertility, potential for erosion, and planned cropping practices for each field or field segment used for land application, to determine the potential for phosphorus transport from the field or

field segment. The assessment shall be completed for each field or field segment using the form provided in Field Phosphorus Risk Assessment (Appendix ~~E~~A), which is based on a method developed by the United States Department of Agriculture Natural Resources Conservation Service, or by using a comparable field phosphorus risk assessment method and forms approved for use by the Department. The plan shall identify the phosphorus risk assessment used for each field or field segment. The planned application rates for manure, litter, or process wastewater shall be consistent with the risk assessment for each field, or field segment, as follows:

001.14A For a field or field segment where there is a low or medium risk of phosphorus movement from the field, a single year's application of manure, litter, or process wastewater may be based on the expected annual available nitrogen from the waste and other sources;

001.14B For a field or field segment where there is a high risk of phosphorus movement from the field, the application of manure, litter, or process wastewater shall be kept at a rate equal to, or less than, the expected phosphorus removal in harvested plant biomass in a single crop year, or for a planned crop sequence of five years or less, that is equal to or less than the expected phosphorus removal in harvested plant biomass for the crop sequence. The application and other sources shall not exceed the expected annual available nitrogen use of the crop; and

001.14C For a field or field segment with a very high risk of phosphorus movement from the field, manure, litter, or process wastewater shall not be applied.

002 Any permit issued pursuant to these regulations shall include terms requiring implementation of a nutrient management plan that, at a minimum, contains best management practices necessary to meet the requirements of this chapter and applicable effluent limitations and standards. The permit terms for the nutrient management plan are the information, protocols, procedures, best management practices, and other conditions in the nutrient management plan determined by the Director to be necessary to meet the following elements:

002.01 Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities;

002.02 Ensure proper management of mortalities (*i.e.*, dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities;

002.03 Ensure that clean water is diverted, as appropriate, from the production area;

002.04 Prevent direct contact of confined animals with waters of the State;

002.05 Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;

002.06 Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the State;

002.07 Identify protocols for appropriate testing of manure, litter, process wastewater, and soil;

002.08 Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater using either a narrative rate approach or a linear approach described in section 003 below; and

002.09 Identify specific records that will be maintained to document the implementation and management of the minimum elements described in this section.

003 Permit terms with respect to protocols for land application of manure, litter, or process wastewater shall include the fields available for land application, field-specific rates of application properly developed using either the narrative rate or linear approach, and any timing limitations concerning land application on available fields. Rates of land application shall use one of the following two approaches:

003.01 Linear approach. An approach that expresses rates of application as pounds of nitrogen and phosphorus, including the followingspecifications:

003.01A Permit terms for the linear approach shall include:

003.01A1 The form and source of manure, litter, and process wastewater to be land-applied;

003.01A2 The timing and method of land application;

003.01A3 The methodology by which the nutrient management plan accounts for the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied; and

003.01A4 Maximum application rates from manure, litter, and process wastewater for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, per year, for each field to be used for land application as well as factors necessary to determine the rate. Those factors which shall be terms shall include at least:

003.01A4 (a) The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field;

003.01A4 (b) The crops to be planted in each field or any other uses of a field such as pasture or fallow fields;

003.01A4 (c) The realistic yield goal for each crop or use identified for each field;

003.01A4 (d) The nitrogen and phosphorus recommendations from sources specified by the University of Nebraska or other sources approved by the Director for each crop or use identified for each field;

003.01A4 (e) Credits for all nitrogen in the field that will be plant available;

003.01A4 (f) Consideration of multi-year phosphorus application; and

003.01A4 (g) Accounting for all other additions of plant available nitrogen and phosphorus to the field.

003.01A5 For large CAFOs, the maximum amount of manure, litter, and process wastewater to be land applied, calculated at least once each year using the results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application.

003.02 Narrative rate approach. An approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied, including the following permit terms:

003.02A Maximum amounts of nitrogen or phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, for each field, and certain factors necessary to determine those amounts. Those factors which shall be terms shall include at least:

003.02A1 The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field;

003.02A2 The crops to be planted in each field or any other uses such as pasture or fallow fields (including alternative crops identified in the nutrient management plan);

003.02A3 The realistic yield goal for each crop or use identified for each field; and

003.02A4 The nitrogen and phosphorus recommendations from sources specified by the University of Nebraska or other sources approved by the Director for each crop or use identified for each field.

003.02B The methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of manure, litter, and process wastewater to be land applied:

003.02B1 Results of soil tests conducted in accordance with protocols identified in the nutrient management plan;

003.02B2 Credits for all nitrogen in the field that will be plant available;

003.02B3 The amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied;

003.02B4 Consideration of multi-year phosphorus application;

003.02B5 Accounting for all other additions of plant available nitrogen and phosphorus to the field;

003.02B6 The form and source of manure, litter, and process wastewater;

003.02B7 The timing and method of land application; and

003.02B8 Volatilization of nitrogen and mineralization of organic nitrogen.

003.02C Alternative crops identified in the nutrient management plan that are not in the planned crop rotation, listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan shall include realistic crop yield goals and the nitrogen and phosphorus recommendations from sources specified by the University of Nebraska or other sources approved by Director for each crop. Maximum amounts of nitrogen or phosphorus from all sources of nutrients and the amounts of manure, litter, and process wastewater to be applied shall be determined in accordance with the methodology described this section.

004 Concentrated Animal Feeding Operations using the narrative rate approach shall perform the following requirements, which are not terms of the nutrient management plan:

004.01 Include the following projections in the nutrient management plan submitted to the Director:

004.01A The CAFO's planned crop rotations for each field for the period of permit coverage;

004.01B The projected amount of manure, litter, or process wastewater to be applied;

004.01C Projected credits for all nitrogen in the field that will be plant available;

004.01D Consideration of multi-year phosphorus application;

004.01E Accounting for all other additions of plant available nitrogen and phosphorus to the field;

004.01F The predicted form, source, and method of application of manure, litter, and process wastewater for each crop; and

004.01G Timing of application for each field, insofar as it concerns the calculation of rates of application.

004.02 Calculate maximum amounts of manure, litter, and process wastewater to be land applied at least once each year using the methodology required in Section 003.02 before land applying manure, litter, and process wastewater, relying on the following data:

004.02A A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available consistent with the methodology required by this section, and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Director; and

004.02B The results of most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

005 If a permittee makes any modifications to a nutrient management plan previously submitted to the Director, the permittee shall notify the Director of the changes. If the changes to the nutrient management plan qualify as a major modification of a construction and operating permit, as defined in Chapter 1 028, the permittee shall submit an application in accordance

with Chapter 4 of this Title. When the changes do not constitute a major modification, the following procedures apply:

005.01 The CAFO owner or operator shall provide the Director, if requested, with the most current version of the CAFO's nutrient management plan and identify changes from the previous version, except that the results of calculations made in accordance with the requirements of paragraphs 003.01A5 and 004.02 of this Chapter are not considered changes to the nutrient management plan.

005.02 The Director shall review the revised nutrient management plan to ensure that it meets the requirements of this Chapter and applicable effluent limitations and standards and shall determine whether the changes to the nutrient management plan necessitate revision to the permit terms of the nutrient management plan incorporated into the permit issued to the CAFO. If revision to the permit terms for the nutrient management plan is not necessary, the Director shall notify the CAFO owner or operator and upon such notification the CAFO may implement the revised nutrient management plan. If revision to the permit terms for the nutrient management plan is necessary, the Director shall determine whether such changes are substantial changes as described in paragraph 005.03 below.

005.02A If the Director determines that the changes to the permit terms for the nutrient management plan are not substantial, the Director shall make the revised nutrient management plan publicly available and include it in the permit record, revise the permit terms for the nutrient management plan incorporated into the permit, and notify the owner or operator and inform the public of any changes to the permit terms of the nutrient management plan that are incorporated into the permit.

005.02B If the Director determines that the changes to the permit terms for the nutrient management plan are substantial, the Director shall notify the public and make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment. The process for public comments, hearing requests, and the hearing process if a hearing is held shall follow the procedures applicable to draft permits set forth in Title 119. The Director may establish, in the CAFO's permit, an appropriate period of time for the public to comment and request a hearing on the proposed changes that differs from the time period specified in Title 119. The Director shall respond to

all significant comments received during the comment period and require the CAFO owner or operator to further revise the nutrient management plan if necessary, in order to approve the revision to the permit terms of the nutrient management plan incorporated into the CAFO's permit. Once the Director incorporates the revised permit terms of the nutrient management plan into the permit, the Director shall notify the owner or operator and inform the public of the final decision concerning revisions to the terms and conditions of the permit.

005.03 Substantial changes to the terms of a nutrient management plan incorporated as terms and conditions of a permit include, but are not limited to:

005.03A Addition of new land application areas not previously included in the CAFO's nutrient management plan. Except that if the land application area that is being added to the nutrient management plan is covered by terms of a nutrient management plan incorporated into an existing NPDES permit in accordance with the requirements of section 003 of this Chapter, and the CAFO owner or operator applies manure, litter, or process wastewater on the newly added land application area in accordance with the existing field-specific permit terms applicable to the newly added land application area, such addition of new land would be a change to the new CAFO owner or operator's nutrient management plan but not a substantial change for purposes of this section;

005.03B Any changes to the field-specific maximum annual rates for land application, as set forth in section 003.01 of this Chapter, and to the maximum amounts of nitrogen or phosphorus derived from all sources for each crop, as set forth in section 003.02 of this Chapter;

005.03C Addition of any crop or other uses not included in the terms of the CAFO's nutrient management plan and corresponding field-specific rates of application expressed in accordance with section 003 of this Chapter; and

005.03D Changes to site-specific components of the CAFO's nutrient management plan, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the State.

Title 130
Chapter 14

Enabling Legislation: Neb. Rev. Stat. § 81-504(10)(11),(12),(13),(20), (21); § 81-1505(10)(11); §§ 54-2416 to 54-2438

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