

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR DISCHARGES FROM CONCENTRATED ANIMAL FEEDING
OPERATIONS (CAFOs) IN NEW MEXICO (NMG010000)**

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 6

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**

In compliance with provisions of the Clean Water Act, 33 USC 1251 et seq., the “Act,” owners and operators of concentrated animal feeding operations (CAFOs) in New Mexico, except those CAFOs excluded from coverage in Part I of this permit, are authorized to discharge and must operate their facility in accordance with effluent limitations, monitoring requirements, and other provisions set forth herein.

A copy of this permit must be kept by the permittee at the site of the permitted activity.

This permit will become effective September 3, 2009.

This permit and the authorization to discharge under the NPDES shall expire at midnight, September 2, 2014.

/s/ Claudia V. Hosch

for

Bill Luthans
Acting Director
Water Quality Protection Division

PART I. PERMIT AREA AND COVERAGE

A. Permit Area

This permit offers NPDES permit coverage for discharges from operations defined as concentrated animal feeding operations (CAFOs) in the State of New Mexico (except Indian Country).

B. Permit Coverage

This permit covers any operation that meets the definition of a CAFO (see Part VII of this permit) and discharges or proposes to discharge pollutants to waters of the United States. A CAFO proposes to discharge if it is designed, constructed, operated, or maintained such that a discharge will occur. Once an operation is defined as a CAFO, the NPDES requirements for CAFOs apply with respect to all animals in confinement at the operation and all manure, litter and process wastewater generated by those animals or the production of those animals, regardless of the type of animal.

C. Eligibility for Coverage

Unless excluded from coverage in accordance with Paragraph D or F below, owners/operators of existing, currently operating animal feeding operations that are defined as CAFOs or designated as CAFOs by the Permitting Authority (See Part VII Definitions, "CAFOs") and that are subject to 40 CFR Part 412, Subparts A (Horses and Sheep) and C (Dairy Cows and Cattle Other than Veal Calves) are eligible for coverage under this permit. Eligible CAFOs may apply for authorization under the terms and conditions of this permit, by submitting a notice of intent (NOI) to be covered by this permit (see Appendix A).

CAFO owners/operators may also seek to be excluded from coverage under this permit by (1) submitting to the Director (see Part I.E.4) a notice of termination form (see Appendix B) or (2) by applying for an individual NPDES Permit in accordance with Part I.F.

D. Limitations on Coverage

The following CAFOs are not eligible for coverage under this NPDES general permit, but must apply for an individual permit:

1. CAFOs that have been notified by EPA to apply for an individual NPDES permit in accordance with Part I.F (below) of this permit.
2. CAFOs that have been notified by EPA that they are ineligible for coverage because of a past history of non-compliance.
3. Duck, Veal, Poultry or Swine CAFOs.
4. Coverage under this permit is available only if your discharge will not adversely affect any species that are federally-listed as endangered or threatened ("listed") under the Endangered Species Act (ESA) and will not result in the adverse modification or destruction of habitat that is federally-designated as "critical habitat" under the ESA. CAFOs seeking coverage under this general permit must follow the conditions outlined in Part III.D.8 of this permit.

5. CAFOs that do not meet the National Historic Preservation Act eligibility provisions contained in Appendix C of this permit.
6. CAFOs that discharge to waters designated by the State as Tier 3 (outstanding natural resource waters) for antidegradation purposes under 40 CFR 131.13(a)(3) (see list of Tier 3 waters on EPA's website at <http://www.epa.gov/npdes/stormwater/msgp>).
7. New dischargers to water quality impaired water (CWA, 303d list) unless the operator:
 - a. prevents any discharge that contains pollutant(s) for which the waterbody is impaired, and includes documentation of procedures taken to prevent such discharge in the NMP; or
 - b. documents that the pollutant(s) for which the waterbody is impaired is not present at the facility, and retains documentation of this finding with the NMP; or
 - c. in advance of submitting the NOI, provides to EPA data to support a showing that the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retains such data onsite with the NMP. To do this, the operator must provide data and other technical information to EPA sufficient to demonstrate:
 - i. For discharges to waters without an EPA approved or established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; or
 - ii. For discharges to waters with an EPA approved or established TMDL, that there are sufficient remaining wasteload allocations in an EPA approved or established TMDL to allow the facility's discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

Operators are eligible under this section if they receive an affirmative determination from EPA Region 6 that the discharge will not contribute to the existing impairment, in which case the operator must maintain such determination onsite with the NMP.

8. CAFOs with discharges subject to New Source Performance Standards (NSPS) at 40 CFR Part 412, **unless** the facility submits an Environmental Information Document (EID) in accordance with Part I.E.8.
9. CAFOs that are located on Indian lands in New Mexico.

E. Application for Coverage

1. Owners/operators of CAFOs seeking to be covered by this permit must:
 - a. Submit an NOI to the Director.
 - i. The owner/operator of any CAFO covered under the 1993 CAFO General Permit must submit an NOI to the Director within 90 days of the effective date of this permit. For any CAFO covered under the 1993 CAFO General Permit that meets this deadline, authorization under the 1993 CAFO General Permit is

- automatically continued until coverage is granted under this permit or coverage is otherwise terminated;
- ii The owner operator of any CAFO that submitted an application for coverage under an individual permit prior to issuance of the general permit must submit an NOI to the Director within 90 days of the effective date of this permit.
 - b. Submit a nutrient management plan (NMP) with the NOI that meets the requirements of 40 CFR 122 and 412, where applicable.
2. CAFO owners/operators may submit an NOI after the applicable date in either a or b, above. Regardless of when the NOI is submitted, the CAFO's authorization is only for discharges that occur after permit coverage is granted. The Permitting Authority reserves the right to take appropriate enforcement actions for any unpermitted discharges.
 3. If a CAFO has submitted an application for coverage under an individual permit prior to issuance of the general permit and is seeking to be covered by this general permit, the CAFO must submit an NOI for coverage.
 4. Signature Requirements: The NOI must be signed by the owner/operator or other authorized person in accordance with Part VI.E of this permit.
 5. Submittal of NMP: An NMP must be submitted that meet the requirements of the provisions of § 122.42(e) (including, for all CAFOs subject to 40 CFR Part 412, Subpart C or Subpart D, the requirements of 40 CFR 412.4(c), as applicable) and Part III.A of this permit.
 6. Where to Submit: CAFOs must submit a signed copy of the NOI and NMP by mail to:

U.S. Environmental Protection Agency, Region 6
Water Quality Protection Division
Planning and Analysis Branch (6WQ-N)
1445 Ross Avenue
Dallas, TX 75202-2733
 7. Upon receipt, EPA will review the NOI and NMP to ensure that all permit requirements are fulfilled. EPA may request additional information from the CAFO owner or operator if additional information is necessary to complete the NOI and NMP or clarify, modify, or supplement previously submitted material. If EPA makes a preliminary determination that the NOI is complete, the NOI, NMP and draft terms of the NMP to be incorporated into the permit will be made available for a 30-day public review and comment period. EPA will respond to comments received during this period and, if necessary, require the CAFO owner or operator to revise the nutrient management plan. If determined appropriate by EPA, CAFOs will be granted coverage under this general permit upon written notification by EPA. (see Part III.A.2)
 8. For new sources: The National Environmental Policy Act (NEPA) requires EPA to conduct an environmental review and issue an Environmental Impact Statement (EIS) or Finding of No Significant Impact (FNSI) prior to allowing permit coverage of new sources (i.e., Large CAFOs whose construction began after April 14, 2003). New sources seeking permit coverage must submit an Environmental Information Document (EID) along with their NOI and NMP. Information concerning preparation of an EID can be obtained by writing to Office of Planning and Coordination, EPA Region 6, 1445 Ross Ave., Dallas, TX 75202, by accessing <http://www.epa.gov/earth1r6/6en/xp/enxp4c.htm> or by contacting the Office at 214-665-7453.

These NEPA requirements also apply to new source expansions of existing CAFOs. A new source expansion is one which meets the definition of a new source (40 CFR 122.2) and the new source criteria (40 CFR 122.29(a) and (b)). So EPA may determine if an expansion is a new source, the applicant must submit to EPA information describing the expansion (i.e., what is being expanded, how the expansion relates to the existing operation, etc.), as well as a map showing the location of the expansion. If EPA determines the expansion to be a new source, the owner/operator must prepare and submit an EID as described above. This information must be submitted to the Region 6 Environmental Clearance Office at the address listed above. Additional information concerning this requirement may be obtained by contacting the Environmental Clearance Office at 214-665-7453.

F. Requiring an Individual Permit

1. EPA may at any time require any facility authorized by this permit to apply for, and obtain, an individual NPDES permit. EPA will notify the operator, in writing, that an application for an individual permit is required and will set a time for submission of the application. Coverage of the facility under this general NPDES permit is automatically terminated when: (1) the operator fails to submit the required individual NPDES permit application within the defined time frame; or (2) the individual NPDES permit is issued by EPA.
2. Any owner/operator covered under this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner/operator shall submit an application for an individual permit (Form 1 and Form 2B) with the reasons supporting the application to EPA. If a final, individual NPDES permit is issued to an owner/operator otherwise subject to this general permit, the applicability of this NPDES CAFO general permit to the facility is automatically terminated on the effective date of the individual NPDES permit. Otherwise, the applicability of this general permit to the facility remains in full force and effect (for example, if an individual NPDES permit is denied to an owner/operator otherwise subject to this general permit).

G. Continuation of this Permit

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 CFR 122.6 and remain in force and effect. If you were authorized to discharge under this permit prior to the expiration date, any discharges authorized under this permit will automatically remain covered by this permit until the earliest of:

1. Your authorization for coverage under a reissued permit or a replacement of this permit following your timely and appropriate submittal of a complete NOI requesting authorization to discharge under the new permit and compliance with the requirements of the new permit; or
2. A formal decision by EPA to grant the permittee's request for termination of permit coverage; or
3. Issuance or denial of an individual permit for the facility's discharges; or
4. A formal permit decision by EPA not to reissue this general permit, at which time EPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease at the end of this time period.

H. Change in Ownership

If a change in the ownership of a facility whose discharge is authorized under this permit occurs, a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees must be submitted to EPA at the address specified in Part I.E.6. EPA will notify the current and new permittees if the transfer of permit coverage is granted.

PART II. EFFLUENT LIMITATIONS AND STANDARDS

A. Effluent Limitations and Standards

The following effluent limitations apply to facilities covered under this permit:

1. Technology-based Effluent Limitations and Standards - Production area.

There shall be no discharge of manure, litter, or process wastewater pollutants into waters of the United States from the production area except as provided below.

- a. Whenever precipitation causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged into waters of the United States provided:
 - i. The production area is properly designed, constructed, operated and maintained to contain all manure, litter, process wastewater plus the runoff and direct precipitation from the 25-year, 24-hour storm event for the location of the CAFO; and
 - ii. The design storage volume is adequate to contain all manure, litter, and process wastewater accumulated during the storage period considering, at a minimum, the following:
 - (A) The volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
 - (B) Normal precipitation less evaporation during the storage period;
 - (C) Normal runoff during the storage period;
 - (C) The direct precipitation from the 25-year, 24-hour storm;
 - (D) The runoff from the 25-year, 24-hour storm event from the production area;
 - (E) Residuals solids after liquid has been removed;
 - (F) Necessary freeboard to maintain structural integrity; and
 - (G) A minimum treatment volume, in the case of treatment lagoons.
- b. The production area must be operated in accordance with the additional measures and records specific in Part II.A.2 of this permit.

2. Other Limitations – Applicable to the Production Area

a. Additional Requirements

In addition to meeting the requirements in Part II.A.1 of this permit, the permittee must implement the following additional requirements.

- i. Conduct weekly visual inspections of all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to the wastewater and manure storage and containment structures.
- ii. Conduct daily visual inspections of all water lines, including drinking water and cooling water lines.
- iii. Install a depth marker in all open surface liquid impoundments. The depth marker must clearly indicate the minimum capacity necessary to contain the runoff and

- direct precipitation of the 25-year, 24-hour rainfall event. The marker shall be visible from the top of the levee.
- iv. Conduct weekly inspections of the manure, litter, and process wastewater impoundments noting the level as indicated by the depth marker installed in accordance with Part II.A.2.a.iii.
 - v. Correct any deficiencies that are identified in daily and weekly inspections in a timely manner.
 - vi. Properly dispose of dead animals within three (3) days unless otherwise provided for by the Director. Mortalities must not be disposed of in any liquid manure or process wastewater system that is not specifically designed to treat animal mortalities. Animals shall be disposed of in a manner to prevent contamination of waters of the United States or creation of a public health hazard.
 - vii. Maintain complete on-site records documenting implementation of all required additional measures, including the records specified for Operation and Maintenance in Part IV.C, Table IV-A, for a period of at least five years from the date they are created.
 - viii. CAFOs constructing new wastewater retention facilities or modifying existing retention facilities shall insure that all retention structure design and construction will, at a minimum, be in accordance with the technical standards developed by the Natural Resources Conservation Service (NRCS). The permittee must use those standards that are current at the time of construction. Existing retention facilities that have been properly maintained and show no signs of structural breakage will be considered to be properly constructed.

The following minimum design standards are required for construction and/or modification of a retention facility: (a) soils used in the embankment shall be free of foreign material such as trash, brush, and fallen trees; (b) the embankment shall be constructed in lifts or layers no more than 6 inches thick and compacted at optimum moisture content; (c) all embankment walls shall be stabilized to prevent erosion or deterioration; (d) site specific variation in embankment construction shall be in accordance with NRCS design standards.

- ix. A rain gauge shall be kept on site and properly maintained. A log of all measurable rainfall events shall be kept with the NMP.
- x. Open lots and associated wastes shall be isolated, as appropriate, from run-on from outside surface drainage by ditches, dikes, berms, terraces or other such structures designed to carry peak flows expected at times when a 25-year, 24-hour rainfall event occurs. Clean water and flood waters must be diverted, as appropriate, from contact with feedlots and holding pens, and manure and/or process wastewater storage systems. In cases where it is not feasible to divert clean water from the production area, the retention structures shall include adequate storage capacity for the additional clean water. Clean water includes rain falling on the roofs of facilities, runoff from adjacent land, or other sources.
- xi. Facilities shall not expand operations, either in size or numbers of animals, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations.

b. Prohibitions

- i. All discharges to retention facilities shall be composed entirely of manure, litter or process wastewater from the proper operation and maintenance of a CAFO,

- and the precipitation from the animal confinement, storage and handling areas. The disposal of other materials into these retention facilities is prohibited.
- ii. Animals confined at the CAFO shall not be allowed to come into direct contact with waters of the United States. Fences may be used to restrict such access.
 - iii. New facilities shall not be built in a water of the United States (including streams, rivers, lakes, wetlands and playa lakes) as defined in 40 CFR 122.2.
 - iv. Wastewater containment facilities, manure storage facilities or holding pens may not be located in the 100-year flood plain unless the facility is protected from inundation and damage that may occur during that flood event.
 - v. There shall be no water quality impairment to public and neighboring private drinking water wells due to waste handling at the permitted facility. Facility wastewater retention facilities, holding pens or waste/wastewater disposal sites shall not be located closer to public or private water wells than the distances specified by State regulations or health codes, or State issued permits for that facility.
 - vi. There shall be no discharge of manure, litter, or process wastewater from retention or control structures to surface waters of the United States through groundwater with a direct hydrologic connection to such waters.
 - vii. There shall be no discharge of rainfall runoff from manure or litter storage piles.

3. Water Quality-based Effluent Limitations and Standards - Production Area

EPA has established the following permit conditions to protect water quality standards.

- a. Discharges to Water Quality Impaired Waters.
 - i. If the CAFO discharges or proposes to discharge to an impaired water with an EPA approved or established TMDL, EPA will inform the facility if any additional limits or controls are necessary for the discharge to be consistent with the assumptions of any available wasteload allocation in the TMDL, or if coverage under an individual permit is necessary in accordance with Part I.D.1. Any additional limits or controls shall be included in the NMP.
 - ii. If the CAFO discharges or proposes to discharge to an impaired water without an EPA approved or established TMDL, EPA will inform the facility if any additional limits or controls are necessary to meet water quality standards, or if coverage under an individual permit is necessary in accordance with Part I.D.1. Any additional limits or controls shall be included in the NMP.
 - iii. If a CAFO's authorization for coverage under this permit relied on Part I.D.7 for a new discharge to an impaired water, the facility must implement and maintain any control measures or conditions on its site that enabled the CAFO to become eligible under Part I.D.7., and shall include these control measures or conditions in its NMP.
 - iv. If at any time the facility becomes aware, or EPA determines, that a discharge to an impaired water has occurred or is proposed to occur and the requirements of Part II.A.3.a.i-iii have not been addressed, the facility must take corrective action to fulfill the requirements of Part II.A.3.a.i-iii. Any changes to the NMP required

to fulfill the requirements of Part II.A.3.a.i-iii shall be done in accordance with Part III.A.6.

b. Tier 2 Antidegradation Requirements for New or Increased Dischargers

If the CAFO discharges or proposes to discharge directly to waters designated by a State or Tribe as Tier 2 or Tier 2.5 for antidegradation purposes under 40 CFR 131.12(a) (see list of Tier 2 and 2.5 waters on EPA's website at <http://www.epa.gov/npdes/stormwater/msgp>), EPA may notify the facility that additional analyses, control measures, or other permit conditions are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary in accordance with Part I.D.7. Any such additional requirements shall be included in the NMP.

4. Technology-based Effluent Limitations and Standards - Land Application Areas under the Control of the CAFO Owner/Operator.

For CAFOs where manure, litter, or process wastewater is applied to land under the control of the CAFO owner/operator, the NMP required by Part III of this permit must include the following requirements:

- a. Nutrient transport potential. The NMP must incorporate elements in paragraphs c – h below based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field.
- b. Form, source, amount, timing, and method of application. The NMP must address the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters.
- c. Determination of application rates. Application rates for manure, litter, or process wastewater must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the most current New Mexico NRCS Conservation Practice Standard Code 590 (Nutrient Management).(see Appendix D)
- d. Site specific conservation practices. 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 United States.
- e. Protocols to land apply manure, litter or process wastewater. 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.
- f. Manure and soil sampling. Manure must be analyzed at least once annually for nitrogen and phosphorus content. Soil must be analyzed at least once every five years. The results of these analyses must be used in determining application rates for manure, litter, and process wastewater;
- g. Inspection of land application equipment for leaks. Equipment used for land application of manure, litter, or process wastewater must be inspected periodically for leaks;
- h. Land application setback requirements. Manure, litter, or process wastewater must not be applied closer than one-hundred (100) feet to any down-gradient water of the United States, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to waters of the United States. The permittee may

elect to use a 35-foot vegetated buffer where applications of manure, litter, or process wastewater are prohibited as an alternative to the 100-foot setback to meet this requirement. As a compliance alternative, the permittee may demonstrate that a set-back or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback.

- i. Complete on-site records including the site specific NMP must be maintained to document implementation of all required land application practices. Such documentation must include the records specified for Soil and Manure/Wastewater Nutrient Analyses and Land Application in Part IV.C, Table IV-A.

5. Other Limitations for Land Application under the Control of the CAFO Owner/Operator

- a. Additional BMPs to control discharges from land application areas.
 - i. Areas shall be identified that, due to topography, activities or other factors, have a high potential for significant soil erosion. Where these areas have the potential to contribute pollutants to waters of the United States, measures used to limit erosion and pollutant runoff shall be identified.
 - ii. Irrigation Control: Irrigation systems shall be managed so as to minimize (a) ponding or puddling of wastewater on land application fields, (b) contamination of ground and surface water and (c) the occurrence of nuisance conditions such as odors and flies.
- b. Prohibitions.
 - i. There shall be no discharge of manure, litter, or process wastewater to a water of the United States from a CAFO as a result of the application of manure, litter or process wastewater to land areas under the control of the CAFO, except where it is an agricultural storm water discharge. Where manure, litter, or process wastewater has been applied in accordance with the CAFO's site specific NMP, a precipitation related discharge of manure, litter or process wastewater from land areas under the control of the CAFO is considered to be an agricultural storm water discharge.
 - ii. Waste shall not be applied to land when the ground is frozen, saturated with water, or during rainfall events.
- c. Water Quality-Based Effluent Limitations. There shall be no unauthorized dry weather discharges from land application sites.

6. Other Limitations

- a. Process wastewater discharges from outside the production area, including: washdown of equipment that has been in contact with manure, raw materials, products or byproducts that occurs outside of the production area; runoff of

pollutants from raw materials, products or byproducts (such as manure, feathers, litter, bedding and feed) from the CAFO that have been spilled or otherwise deposited outside the production area that have the potential to contribute pollutants to waters of the United States shall be identified in the NMP. The NMP shall identify measures necessary to meet applicable water quality standards.

- b. Discharges that do not meet the definition of process wastewater, including: discharges associated with feed, fuel, chemical, or oil spills, equipment repair, and equipment cleaning where the equipment has not been in contact with manure, raw materials, products or byproducts; domestic wastewater discharges and have potential to contribute pollutants to waters of the United States shall be identified in the NMP. The NMP shall identify measures necessary to meet applicable water quality standards.
- c.. Storm water discharges that are not addressed under the effluent limitations in Part II above remain subject to applicable industrial or construction storm water discharge requirements.

In addition to meeting the above effluent limitations (Part II.A), the permittee must comply with the special conditions established in Part III of this permit.

B. Other Legal Requirements

No condition of this permit shall release the permittee from any responsibility or requirements under other statutes or regulations, Federal, State/Indian Tribe or Local.

PART III. SPECIAL CONDITIONS

A. Requirements for Developing and Implementing Nutrient Management Plans (NMPs)

The permittee shall develop, submit, and implement a site specific NMP. The NMP shall specifically identify and describe practices that will be implemented to assure compliance with the effluent limitations and special conditions of this permit (Parts II.A and III.A). The NMP must be developed in accordance with the New Mexico NRCS Conservation Practice Standard Code 590 (Nutrient Management) (see Part II.A and Appendix D).

1. Schedule. The completed NMP must be submitted to EPA along with the notice of intent for CAFOs seeking coverage under this permit. The permittee shall implement its NMP as soon as possible and modify as necessary upon authorization under this permit in accordance with 40 CFR 122.23(h).

2. NMP Review and Terms.
 - a. Upon receipt of the NMP, EPA will review the NMP. If additional information is necessary to complete the NMP, or to clarify, modify, or supplement previously submitted material, the Director may request such information from the CAFO owner or operator.

 - b. The NMP will be used by the Director to identify site specific permit terms, to include the items outlined in Part III.A.3, to be incorporated into this permit. The Director will identify site specific permit terms with respect to protocols for the land application of manure, litter, and process wastewater. The Director will also identify site specific permit terms with respect to manure, litter, and process wastewater storage capacities and site specific conservation practices based on the CAFO's NMP to the extent that such terms are necessary to support the application rates expressed in the NMP.

 - c. When the Director determines that the NMP and notice of intent are complete, the Director will publish the notice of intent submitted by the CAFO, including the CAFO's NMP, and the terms of the NMP to be incorporated into the permit, as determined by the Director, at the EPA Region 6, Water Quality Protection Division internet site (<http://www.epa.gov/earth1r6/6wq/6wq.htm>). The Director will notice the proposal to grant coverage under the permit and the availability of the aforementioned documentation for public review and comment. The notice will also provide the opportunity for a public hearing on the NOI and draft NMP in accordance with 40 CFR 124.11 and 12.

 - d. The period of time for the public to comment and request a hearing on the proposed terms of the NMP to be incorporated into the permit shall be thirty (30) days.

 - e. The Director will respond to comments received during the comment period, as provided in 40 CFR 124.17, and, if necessary, require the CAFO owner or operator to revise the NMP in order to be granted permit coverage.

 - f. When the Director authorizes the CAFO owner or operator to discharge under the general permit, the terms of the NMP shall be incorporated as terms and conditions of the permit for the CAFO. The Director will notify the CAFO owner or operator that coverage has

been authorized and of the applicable terms and conditions of the permit. Notice of permit coverage and site specific permit terms will be provided to the permittee in a written permit authorization notice.

- g. Each CAFO covered by this permit must comply with the site specific permit terms established by the Director based on the CAFO's site specific NMP.
3. NMP Content. The site specific NMP at a minimum must include practices and procedures necessary to implement the applicable effluent limitations and standards. In addition, the NMP and each CAFO covered by this permit must, as applicable:
- a. Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities. All wastewater and manure containment structures shall at a minimum be designed, constructed, operated, and maintained in accordance with the standards of the *Natural Resources Conservation Service, Field Office Technical Guide*. Storage capacity must be sufficient to meet the minimum requirements of Part II.A.1, as stated above, and also must be sufficient to allow the CAFO to comply with the land application schedule specified in the NMP. To the extent that the NMP depends on off-site transport or other means of handling to ensure adequate storage capacity this must be described in the NMP.

If the CAFO needs to maintain storage capacity that exceeds the minimum capacity requirements of Part II.A.1, as stated above, to comply with the land application provisions of the NMP or Part II.A., the storage capacity shall become a term of this permit and EPA will develop site specific terms based on the submitted NMP.
 - b. Ensure that clean water is diverted, as appropriate, from the production area. Any clean water that is not diverted and comes into contact with raw materials, products, or byproducts including manure, litter, process wastewater, feed, milk, eggs, or bedding is subject to the effluent limitations specified in Part II.A of this permit. Where clean water is not diverted from the production area, the retention structures shall include adequate storage capacity for the additional clean water. Clean water includes, but is not limited to, rain falling on the roofs of facilities and runoff from adjacent land.
 - c. 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 or contaminants. All wastes from dipping vats, pest and parasite control units, and other facilities utilized for the management of potentially hazardous or toxic chemicals shall be handled and disposed of in a manner sufficient to prevent pollutants from entering the manure, litter, or process wastewater retention structures or waters of the United States. Include references to any applicable chemical handling protocols and indicate that other protocols included in the NMP will be reviewed.
 - d. 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 United States and specifically, to minimize the runoff of nitrogen and phosphorus. Each CAFO covered by this permit must implement the site specific conservation practices determined by the Permitting Authority to be a term of this permit, as specified in the CAFO's permit authorization notice. These practices may include, but are not limited to,

residue management, conservation crop rotation, grassed waterways, strip cropping, vegetated buffers, riparian buffers, setbacks, terracing, and diversions. The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant erosion. Where these areas have the potential to contribute pollutants to waters of the United States, the NMP shall identify measures used to limit erosion and pollutant runoff.

- e. Identify protocols for appropriate testing of manure, litter, process wastewater, and soil. Manure, wastewater and soil sampling must be conducted in accordance with the requirements of Parts III.A.7.d and e.
- f. 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.

The permittee's site specific NMP shall document the calculation of land application rates of manure, litter, or process wastewater. The New Mexico NRCS Conservation Practice Standard 590 (Nutrient Management) shall be used for calculating these rates (see Appendix D). The rate calculation shall address the form, source, amount, timing, and method of application on each field to achieve realistic production goals while minimizing nitrogen and phosphorus movement to surface water. The rate calculation shall be based on the results of a field specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters using the assessment tools and procedures described in New Mexico NRCS Conservation Practice Standard 590 (Nutrient Management), including the New Mexico Phosphorus Index (New Mexico NRCS Agronomy Technical Note 57).

The permittee shall comply with site specific permit terms established by the Director for land application of manure, litter, and process wastewater. Development of site specific terms shall be based upon the Director's review of the NMP submitted in accordance with the requirements of parts I.E and III.A of this permit. The NMP must also include any additional information necessary to assess the adequacy of the application rates included in the NMP.

- g. Application rates shall be expressed in the NMP consistent with one of the following two approaches.
 - i. Linear Approach
 - (A) The Linear Approach expresses rates of application as pounds of nitrogen and phosphorus. Permittees selecting the linear approach to address rates of application must include in the NMP submitted to the Director the following information for each crop, field, and year covered by the NMP, which will be used by the Director to establish site specific permit terms:
 - (1) The maximum application rate (pounds/acre/year of nitrogen and phosphorus) from manure, litter, and process wastewater;
 - (2) The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. The potential

for nitrogen and phosphorus transport shall be determined using the assessment tools and procedures described in New Mexico NRCS Conservation Practice Standard 590 (Nutrient Management) including the New Mexico Phosphorus Index (New Mexico NRCS Agronomy Technical Note 57). The CAFO must specify any conservation practices used in calculating the risk rating;

- (3) The crops to be planted or any other uses of a field such as pasture or fallow fields;
 - (4) The realistic annual yield goal for each crop or use identified for each field;
 - (5) The nitrogen and phosphorus recommendations from EPA approved sources for each crop or use identified for each field;
 - (6) Credits for all residual nitrogen in each field that will be plant-available;
 - (7) Consideration of multi-year phosphorus application. For any field where nutrients are applied at a rate based on the crop phosphorus requirement, the NMP must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement;
 - (8) Accounting for all other additions of plant available nitrogen and phosphorus (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen);
 - (9) The form and source of manure, litter, and process wastewater to be land-applied;
 - (10) The timing and method of land application. The NMP also must include storage capacities needed to ensure adequate storage that accommodates the timing indicated;
 - (11) The methodology that will be used to account for the amount of nitrogen and phosphorus in the manure, litter, and wastewater to be applied; and
 - (12) Any other factors necessary to determine the maximum application rate identified in accordance with the Linear Approach.
- (B) Large CAFOs using the Linear Approach must calculate the maximum amount of manure, litter, and process wastewater to be land applied at least once each year using the results of the most recent representative manure, litter, and process wastewater tests of nitrogen and phosphorus. Such representative tests must be taken within twelve (12) months of the date of land application.

ii. Narrative Rate Approach

- (A) The Narrative Rate Approach expresses a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied. Permittees selecting the narrative rate approach to address rates of application must include in the NMP

submitted to the Director the following information for each crop, field, and year covered by the NMP, which will be used by the Director to establish site specific permit terms:

- (1) The maximum amounts of nitrogen and phosphorus that will be derived from all sources of nutrients (pounds/acre for each crop and field);
 - (2) The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. The potential for nitrogen and phosphorus transport shall be determined using the assessment tools and procedures described in New Mexico NRCS Conservation Practice Standard 590 (Nutrient Management) including the New Mexico Phosphorus Index (New Mexico NRCS Agronomy Technical Note 57). The CAFO must specify any conservation practices used in calculating the risk rating;
 - (3) The crops to be planted in each field or any other uses of a field such as pasture or fallow fields, including alternative crops if applicable. Any alternative crops included in the NMP must be listed by field, in addition to the crops identified in the planned crop rotation for that field;
 - (4) The realistic annual yield goal for each crop or use identified for each field for each year, including any alternative crops identified;
 - (5) The nitrogen and phosphorus recommendations from EPA approved sources for each crop or use identified for each field, including any alternative crops identified;
 - (6) The methodology (including formulas, sources of data, protocols for making determination, etc.) and actual data that will be used to account for: (a) the results of soil tests required by Parts II.A.4.f and III.A.3.e, (b) credits for all nitrogen in the field that will be plant-available, (c) the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied, (d) consideration of multi-year phosphorus application (for any field where nutrients are applied at a rate based on the crop phosphorus requirement, the methodology must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement), (e) accounting for all other additions of plant available nitrogen and phosphorus to the field (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen), (f) the timing and method of land application, and (g) volatilization of nitrogen and mineralization of organic nitrogen.
 - (7) Any other factors necessary to determine the amounts of nitrogen and phosphorus to be applied in accordance with the Narrative Rate Approach.
- (B) NMPs using the Narrative Rate Approach must also include the following projections, which will not be used by the Director in establishing site specific permit terms:

- (1) Planned crop rotations for each field for the period of permit coverage;
 - (2) Projected amount of manure, litter, or process wastewater to be applied;
 - (3) Projected credits for all nitrogen in the field that will be plant-available;
 - (4) Consideration of multi-year phosphorus application;
 - (5) Accounting for other additions of plant-available nitrogen and phosphorus to the field; and
 - (6) The predicted form, source, and method of application of manure, litter, and process wastewater for each crop.
 - iii. Identify and maintain all records necessary to document the development and implementation of the NMP and compliance with the permit.
 - h. Include a legible site map of the production area (including, at a minimum, the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment area), and the land application area. The map must also include flow direction, an outline of drainage areas to the process wastewater retention or control structures, structural controls, and surface water bodies.
4. Signature. The NMP shall be signed by the owner/operator or other signatory authority in accordance with Part VI.E (Signatory Requirements) of this permit.
5. A current copy of the NMP shall be kept on site at the permitted facility in accordance with Part IV.C of this permit and provided to the Permitting Authority upon request.
6. Changes to the nutrient management plan
 - a. When a CAFO owner or operator covered by this permit makes changes to the CAFO's NMP previously submitted to the Director, the CAFO owner or operator must provide the Director with the most current version of the CAFO's NMP and identify changes from the previous version, with the exception of annual calculations of application rates for manure, litter, and process wastewater as required in Parts III.A.3.g.i(B) (for the Linear Approach) and III.A.7.f (for the Narrative Rate Approach), which are not required to be submitted to the Director.
 - b. When changes to a NMP are submitted to the Director, the Director will review the revised NMP to ensure that it meets the requirements of Parts II.A.4 and III.A.3. If the Director determines that the changes to the NMP necessitate revision to the terms of the NMP incorporated into the permit issued to the CAFO, the Director must determine whether such changes are substantial. Substantial changes to the terms of a NMP incorporated as terms and conditions of a permit include, but are not limited to:
 - i. Addition of new land application areas not previously included in the CAFO's NMP, except that if the added land application area is covered by the terms of a NMP incorporated into an existing NPDES permit and the permittee complies with such terms when applying manure, litter, and process wastewater to the added land;

- ii. For NMPs using the Linear Approach, changes to the field-specific maximum annual rates of land application (pounds of N and P from manure, litter, and process wastewater). For NMPs using the Narrative Rate Approach, changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop;
 - iii. Addition of any crop or other uses not included in the terms of the CAFO's NMP; and
 - iv. Changes to site specific components of the CAFO's NMP, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the United States
- c. If the Director determines that the changes to the terms of the NMP are not substantial, the Director will include the revised NMP in the permit record, revise the terms of the permit based on the site specific NMP, and notify the permittee and the public of any changes to the terms of the permit based on revisions to the NMP.
- d. If the Director determines that the changes to the terms of the NMP are substantial, the Director will notify the public, make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment, and respond to all significant comments received during the comment period. The public notice will be provided using the guidelines described in Part III.A.2.c above. The Director may require the permittee to further revise the NMP, if necessary. Once the Director incorporates the revised terms of the NMP into the permit, the Director will notify the permittee of the revised terms and conditions of the permit.

7. Requirements for implementing nutrient management plans

- a. Permittee must have adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities.
- b. Clean water must be diverted, as appropriate from the production area.
- c. Chemicals and other contaminants handled on-site may not be 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.
- d. **Manure, Litter, and Process Wastewater Testing.** Representative samples of manure, litter, and process wastewater shall be collected and analyzed for nutrient content, including nitrogen and phosphorus, at least annually, in accordance with the protocols established in the NMP under Part III.A.3.e. At a minimum, manure sampling and analysis shall be conducted prior to the first land application event each year of permit coverage. Steps must be taken to ensure the collection of a representative sample. The sample shall be sent for analysis as soon after collection as practical and, where necessary, specific preservation procedures shall be utilized to prevent the degradation of the sample.
- e. **Soil Testing.** Representative samples of soil for all fields under the control of the CAFO operator where manure and wastewater may be applied must be collected and analyzed for phosphorus content at least once every five (5) years, in accordance with the protocols established in the NMP under Part III.A.3.e. Representative samples shall be collected

from each field included in the NMP. Each sample area should consist of only one general soil type or condition. If a field varies in slope, color, drainage or texture, and if those areas can be fertilized separately, collect and analyze a separate sample for each area. Samples shall be collected according to New Mexico NRCS, NMED, or New Mexico State University Extension guidance. Avoid sampling in old fence rows, dead furrows, low spots, feeding areas, and other areas that might not provide representative results. Soil samples shall not be taken when the soil is wet or frozen or shortly after applying lime or fertilizer. Collect at least 10 soil cores for small areas and up to thirty (30) cores for larger fields. Take the soil cores randomly throughout the sampling area and combine the cores into a single sample. An individual sample should represent no more than twenty (20) acres except when soils, past management, and cropping history are uniform.

In all cases the sampling frequency for manure, litter, process wastewater and soil shall be consistent with the New Mexico NRCS Conservation Practice Standard Code 590 (Nutrient Management).

- f. CAFOs that use the Narrative Rate Approach must calculate maximum amounts of manure, litter, and process wastewater to be land applied at least once each year using the methodology specified in the NMP pursuant to Part III.A.3.g.ii(A) before land applying manure, litter, and process wastewater. Such calculations must rely on the following data:
 - i. A field-specific determination of soil levels of nitrogen and phosphorus. For nitrogen, the determination must include a concurrent determination of nitrogen that will be plant available. For phosphorus, the determination must include the results of the most recent soil test conducted as required in Parts II.A.4.f and III.A.3.g.
 - ii. 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, as required in Parts II.A.4.f and III.A.3.g, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.
8. Certified Specialists to Develop NMPs. Owners and operators of CAFO facilities located in the State of New Mexico (except Indian Country) shall use a “Certified Conservation Planner – CNMP” and a “Certified Specialist(s) – CNMP” to develop and/or modify the NMP required by this permit. The NMP must also include applicable document(s) to verify that the person who developed and/or modified the NMP had met the qualifications of a certified planner/specialist.

A certified NMP planner is a person who has a demonstrated capacity to develop Comprehensive Nutrient Management Plans (CNMPs) in accordance with applicable USDA-NRCS and State standards which, when an NPDES Permit is required, also meets the NMP requirement, the EPA CAFO effluent guidelines and NPDES permit requirements. The certified NMP planner must be certified by New Mexico USDA-NRCS or a USDA-NRCS sanctioned organization as a “Certified Specialist-CNMP,” or an alternate, equivalent certification program developed by NMED. The certified NMP specialist must be certified by New Mexico USDA-NRCS or a USDA-NRCS sanctioned organization as a “Certified Specialist – CNMP,” or an alternate, equivalent certification program developed by NMED.

CAFO owners/operators are solely responsible for assuring their NMPs comply with all permit conditions and are properly implemented.

B. Facility Closure Requirements

The following conditions shall apply to the closure of lagoons and other earthen or synthetic lined basins and other manure, litter, or process wastewater storage and handling structures:

1. Closure of Lagoons and Other Surface Impoundments
 - a. No lagoon or other earthen or synthetic lined basin shall be permanently abandoned.
 - b. Lagoons and other earthen or synthetic lined basins shall be maintained at all times until closed in compliance with this section.
 - c. All lagoons and other earthen or synthetic lined basins must be properly closed if the permittee ceases operation. In addition, any lagoon or other earthen or synthetic lined basin that is not in use for a period of twelve (12) consecutive months must be properly closed unless the facility is financially viable, intends to resume use of the structure at a later date, and either: (1) maintains the structure as though it were actively in use, to prevent compromise of structural integrity; or (2) removes manure and wastewater to a depth of one foot or less and refills the structure with clean water to preserve the integrity of the synthetic or earthen liner. In either case, the permittee shall submit a written report to EPA within thirty (30) days of basin closure detailing the actions taken, and shall conduct routine inspections, maintenance, and record keeping as though the structure were in use. Prior to restoration of use of the structure, the permittee shall notify EPA in writing and provide the opportunity for inspection.
 - d. All closure of lagoons and other earthen or synthetic lined basins must be consistent with New Mexico NRCS Conservation Practice Standard Code 360 (Closure of Waste Impoundments). Consistent with this standard the permittee shall remove all waste materials to the maximum extent practicable and dispose of them in accordance with the permittee's nutrient management plan, unless otherwise authorized by EPA.
 - e. Unless otherwise authorized by EPA, completion of closure for lagoons and other earthen or synthetic lined basins shall occur as promptly as practicable after the permittee ceases to operate or, if the permittee has not ceased operations, twelve (12) months from the date on which the use of the structure ceased, unless the lagoons or basins are being maintained for possible future use in accordance with the requirements above.
2. Closure Procedures for Other Manure, Litter, or Process Wastewater Storage and Handling Structure

No other manure, litter, or process wastewater storage and handling structure shall be abandoned. Closure of all such structures shall occur as promptly as practicable after the permittee has ceased to operate, or, if the permittee has not ceased to operate, within twelve (12) months after the date on which the use of the structure ceased. To close a manure, litter, or process wastewater storage and handling structure, the permittee shall remove all manure, litter, or process wastewater and dispose of it in accordance with the permittee's nutrient management plan, or document its transfer from the permitted facility in accordance with off-site transfer requirements specified in Part III.C below, unless otherwise authorized by EPA.

C. Requirements for the Transfer of Manure, Litter, and Process Wastewater to Other Persons

1. In cases where CAFO-generated manure, litter, or process wastewater is sold or given away the permittee must comply with the following conditions (amounts less than 10 tons per year to a single recipient need not be recorded.):

- a. Maintain records showing the date and amount of manure, litter, and/or process wastewater that leaves the permitted operation;
- b. Record the name and address of the recipient;
- c. Provide the recipient(s) with representative information on the nutrient content of the manure, litter, and/or process wastewater; and
- d. These records must be retained on-site, for a period of five (5) years, and be submitted to the Permitting Authority upon request.

D. Additional Special Requirements

1. Liner Requirement: The permittee shall document that no direct hydrologic connection exists between the contained wastewater and surface waters of the United States. Where the permittee cannot document that no direct hydrologic connection through ground water exists, the ponds, lagoons and basins of the containment facilities must have a liner which will prevent the potential contamination of surface waters.
 - a. Documentation of no direct hydrologic connection. The permittee can document lack of hydrologic connection by either: (1) documenting that there will be no significant leakage from the retention structure; or (2) documenting that any leakage from the retention structure would not migrate to surface waters. For documentation of no significant leakage, in-situ materials must, at a minimum, meet the minimum criteria for hydraulic conductivity and thickness described in 4.b, below. Documentation that leakage will not migrate to a surface water must include maps showing ground water flow paths, or that the leakage enters a confined environment. This documentation must be certified in writing by a NRCS engineer or a Professional Engineer 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.
 - b. Liner Construction. Liners constructed and maintained in accordance with NRCS design specifications shall be considered to prevent hydrologic connection which could result in the contamination of surface waters. Where no site-specific assessment has been done by a NRCS engineer or Professional Engineer, the liner shall be constructed to have hydraulic conductivities no greater than 1×10^{-7} cm/sec, with a thickness of 1.5 feet or greater or its equivalency in other materials.
 - c. Liner Maintenance. The permittee must maintain the liner to inhibit infiltration of wastewaters. Liners shall be 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. Any mechanical or structural damage to the liner must be evaluated by a NRCS Engineer or Professional Engineer within thirty (30) days of the damage. Documentation of liner maintenance shall be kept with the Nutrient Management Plan (NMP). The permittee shall have a NRCS Engineer or Professional Engineer review the documentation and do a site evaluation a minimum of once every five (5) years. If notified by the State or EPA that a direct hydrological connection to waters of the United States exists for the contamination of surface waters or drinking water, the permittee shall install a leak detection system or monitoring wells, or take other appropriate measures in accordance with that notice. Documentation of compliance with the notification must be kept with the NMP, as well as all sampling data. Data from the monitoring wells must be kept on site for three (3) years with the NMP. The first

year's sampling shall be considered the baseline data and must be retained on site for the life of the facility.

2. **Retention Structure Dewatering:** A schedule must be developed for liquid waste removal from the retention structure(s). A date log indicating weekly inspection of wastewater level in the retention facility, including specific measurement of wastewater level must be kept. Retention facilities shall be equipped with either irrigation or evaporation or liquid removal systems capable of dewatering the retention facilities. Operators using pits, ponds, or lagoons for storage and treatment of storm water, manure and process generated wastewater, including flush water waste handling systems, shall maintain sufficient available storage capacity to contain the runoff and the direct precipitation from a 25-year, 24-hour rainfall event. The operator shall restore the storage capacity as soon as possible after any rainfall event or accumulation of wastes reduces such storage capacity, weather permitting.
3. **Spills:** Appropriate measures necessary to prevent spills and to cleanup spills of any toxic and other pollutants shall be taken. Handling procedures and storage for these materials must be specified in the NMP. Procedures for cleaning up spills shall be identified, and the necessary equipment to implement clean up shall be made available to facility personnel. All spills and clean-up activities must be documented. Documentation of spills and clean-up must be kept with the NMP.
4. **Solids, sludges, manure or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner to prevent pollutants from being discharged to waters of the United States.**
5. **Manure, litter, and process wastewater handling, treatment, and management shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or contribute to the taking of endangered or threatened species of plant, fish or wildlife. The operator shall notify State and Federal wildlife agencies, NMED, and EPA within 48 hours if any dead or injured threatened or endangered species or protected migratory birds are observed in or on receiving waters following a discharge or on the facility's land application areas at any time.**
6. **Manure, litter, and process wastewater handling, treatment, and management shall not create an environmental or public health hazard; shall not result in the contamination of drinking water; shall conform to State guidelines and/or regulations for the protection of surface water quality.**
7. **Employee Training:** Employees responsible for permit compliance must be regularly trained or informed of any information pertinent to the proper operation and maintenance of the facility and waste disposal. Training shall include topics such as land application of wastes, proper operation and maintenance of the facility, good housekeeping and material management practices, necessary record-keeping requirements, and spill response and clean up. The permittee is responsible for determining the appropriate training frequency for different levels of personnel and the NMP shall identify periodic dates for such training.
8. **Endangered Species**
 - a. All CAFO operations in the counties of Bernalillo, Chavez, Eddy, Sandoval, San Juan and Valencia must develop and implement an Emergency Action Plan (EAP). The EAP must identify the BMP(s) that shall be implemented immediately to minimize the likelihood of an accident, leak, spill or permitted discharge from entering waters of the

United States occupied by threatened or endangered species or their critical habitat. The EAP must be included as an element of the NMP submitted to EPA for review. BMPs developed and implemented must comply with state laws. BMP(s) to reach this goal may include, but are not limited to:

- i. an emergency runoff discharge abatement area;
 - ii. a storage lagoon or other lined storage area with additional capacity;
 - iii. a contingency plan to immediately pump out and create additional storage (avoiding land application where pumped material runoff would reach receiving stream);
 - iv. implementation of a CNMP according to the USDA Natural Resources Conservation Service guidelines;
 - v. additional constructed wetland or other adequate waste treatment units; or
 - vi. other watershed practices that are capable of reducing discharges from reaching waters of the United States that are occupied by threatened or endangered species (e.g., facility setbacks, berms, filter strips, emergency response barriers, etc.).
- b. All CAFO operations in the counties of Bernalillo, Chavez, Eddy, Sandoval, San Juan and Valencia must develop and implement soil sampling of land application sites once every five (5) years for the metals selenium, copper and zinc. The sampling may be performed concurrently with required phosphorus sampling.

PART IV. DISCHARGE MONITORING AND NOTIFICATION REQUIREMENTS**A. Notification of Discharges Resulting from Manure, Litter, and Process Wastewater Storage, Handling, On-site Transport and Application**

If, for any reason, there is a discharge of pollutants to a water of the United States, the permittee is required to make immediate oral notification within 24-hours to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas at 214-665-6595, and NMED at 505-827-9329. The permittee is also required to notify EPA and NMED in writing within fourteen (14) working days of the discharge of pollutants to a water of the United States from the facility. In addition, the permittee shall keep a copy of the notification submitted to EPA together with the other records required by this permit. The discharge notification shall include the following information:

- a. A description of the discharge and its cause, including a description of the flow path to the receiving water body and an estimate of the flow and volume discharged.
- b. The period of non-compliance, including exact dates and times, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent recurrence of the discharge.

B. Monitoring Requirements for All Discharges from Retention Structures

In the event of any overflow or other discharge of pollutants from a manure and/or wastewater storage or retention structure, whether or not authorized by this permit, the following actions shall be taken:

1. All discharges shall be sampled and analyzed. Samples must, at a minimum, be analyzed for the following parameters: total nitrogen, nitrate nitrogen, ammonia nitrogen, total phosphorus, *E. coli* bacteria, five-day biochemical oxygen demand (BOD₅), total suspended solids, pH, and temperature. The discharge must be analyzed in accordance with approved EPA methods for water analysis listed in 40 CFR Part 136.
2. Record an estimate of the volume of the release and the date and time.
3. Samples shall consist of grab samples collected from the over-flow or discharges from the retention structure. A minimum of one sample shall be collected from the initial discharge (within 30 minutes). The sample shall be collected and analyzed in accordance with EPA approved methods for water analysis listed in 40 CFR 136. Samples collected shall be representative of the monitored discharge.
4. If conditions are not safe for sampling, the permittee must provide documentation of why samples could not be collected and analyzed. For example, the permittee may be unable to collect samples during dangerous weather conditions (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.). However, once dangerous conditions have passed, the permittee shall collect a sample from the retention structure (pond or lagoon) from which the discharge occurred.
5. Monitoring results must be submitted to EPA Region 6, Compliance Assurance and Enforcement Division, within thirty (30) days of the discharge event at the address listed in Part V.1 of this permit.

C. General Inspection, Monitoring, and Record keeping Requirements

The permittee shall inspect, monitor, and record the results of such inspection and monitoring in accordance with Table IV–A:

Table IV-A NPDES Large CAFO Permit Record Keeping Requirements		
Parameter	Units	Frequency
Permit and Nutrient Management Plan <i>(Note: Required by the NPDES CAFO Regulation – applicable to all CAFOs)</i>		
The CAFO must maintain on-site a copy of the current NPDES permit, including the permit authorization notice.	N/A	Maintain at all times
The CAFO must maintain on-site a current site specific NMP that reflects existing operational characteristics. The operation must also maintain on-site all necessary records to document that the NMP is being properly implemented with respect to manure and wastewater generation, storage and handling, and land application, and all other minimum practices described in 40 CFR 122.42(e).	N/A	Maintain at all times
Soil and Manure/Wastewater Nutrient Analysis <i>(Note: Required by the CAFO ELG – applicable to Large CAFOs)</i>		
Analysis of manure, litter, and process wastewater to determine nitrogen and phosphorus content. ¹	ppm Pounds/ton	At least annually after initial sampling
Analysis of soil in all fields where land application activities are conducted to determine phosphorus content. ¹	ppm	At least once every 5 years after initial sampling
Operation and Maintenance <i>(Note: Required by the CAFO ELG – applicable to Large CAFOs)</i>		
Visual inspection of all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to wastewater and manure storage and containment structure.	N/A	Weekly
Visual inspection of all water lines	N/A	Daily ²
Visual inspection of the manure, litter, and process wastewater impoundments, including documentation of depth of manure and process wastewater in all liquid impoundments	Feet	Weekly
Documentation of all corrective actions taken. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction.	N/A	As necessary
Documentation of animal mortality handling practices	N/A	As necessary
Design documentation for all manure, litter, and wastewater storage structures including the following information: <ul style="list-style-type: none"> • Volume for solids accumulation • Design treatment volume • Total design storage volume³ • Days of storage capacity 	Cubic yards/gallons Cubic yards/gallons Cubic yards/gallons Days	Once in the permit term unless revised

Table IV-A NPDES Large CAFO Permit Record Keeping Requirements		
Parameter	Units	Frequency
Documentation of all overflows from all manure and wastewater storage structures including: <i>(Note: Required by the NPDES Regulation – applicable to all CAFOs)</i>		
<ul style="list-style-type: none"> Date and time of overflow 	Month/day/year	Per event
<ul style="list-style-type: none"> Estimated volume of overflow 	Total gallons	Per event
<ul style="list-style-type: none"> Analysis of overflow (as required by the Permitting Authority) 	ppm	Per event
Land Application <i>(Note: Required by the CAFO ELG – applicable to Large CAFOs)</i>		
For each application event where manure, litter, or process wastewater is applied, documentation of the following by field:		
<ul style="list-style-type: none"> Date of application 	Month/day/year	Daily
<ul style="list-style-type: none"> Method of application 	N/A	Daily
<ul style="list-style-type: none"> Weather conditions at the time of application and for 24 hours prior to and following application 	N/A	Daily
<ul style="list-style-type: none"> Total amount of nitrogen and phosphorus applied⁴ 	Pounds/acre	Daily
Documentation of the crop and expected yield for each field	Bushel/acre	Seasonally
Documentation of the actual crop planted and actual yield for each field		
Documentation of test methods and sampling protocols used to sample and analyze manure, litter, and wastewater and soil.	N/A	Once in the permit term unless revised
Documentation of the basis for the application rates used for each field where manure, litter, or wastewater is applied.	N/A	Once in the permit term unless revised
Documentation showing the total nitrogen and phosphorus to be applied to each field including nutrients from the application of manure, litter, and wastewater and other sources	Pounds/acre	Once in the permit term unless revised
Documentation of manure application equipment inspection	N/A	Seasonally
Manure Transfer <i>(Note: Required by the NPDES CAFO Regulation – applicable to Large CAFOs)</i>		
For all manure transfers the CAFO must maintain the following records:		
<ul style="list-style-type: none"> Date of transfer 	N/A	As necessary
<ul style="list-style-type: none"> Name and address of recipient 	N/A	As necessary
<ul style="list-style-type: none"> Approximate amount of manure, litter, or wastewater transferred 	Tons/gallons	As necessary
<p>¹ Refer to the state nutrient management technical standard for the specific analyses to be used.</p> <p>² Visual inspections should take place daily during the course of normal operations. The completion of such inspection should be documented in a manner appropriate to the operation. Some operations may wish to maintain a daily log. Other operations may choose to make a weekly entry, when they update other weekly records, that required daily inspections have been completed.</p> <p>³ Total design volume includes normal precipitation less evaporation on the surface of the structure for the storage period, normal runoff from the production area for the storage period, 25-year, 24-hour precipitation on the surface of the structure, 25-year, 24-hour runoff from the production area, and residual solids.</p> <p>⁴ Including quantity/volume of manure, litter, or process wastewater applied and the basis for the rate of phosphorus application.</p>		

PART V. ANNUAL REPORTING REQUIREMENTS

1. The annual report shall be submitted to EPA and NMED at the addresses listed below. The annual report shall be submitted on the 31st day of January.
Addresses for submitting required reports:

EPA Region 6: Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-W)
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

NMED: Program Manager
Surface Water Quality Bureau
New Mexico Environment Department
P.O. Box 5469
1190 Saint Francis Drive
Santa Fe, NM 87502

2. The annual report must include the following information:
 - a. The number and type of animals, whether in open confinement or housed under roof;
 - b. Estimated amount of total manure, litter and process wastewater generated by the CAFO in the previous twelve (12) months (tons/gallons);
 - c. Estimated amount of total manure, litter and process wastewater transferred to other person by the CAFO in the previous twelve (12) months (tons/gallons);
 - d. Total number of acres for land application covered by the NMP;
 - e. Total number of acres under control of the CAFO that were used for land application of manure, litter and process wastewater in the previous twelve (12) months;
 - f. Summary of all manure, litter and process wastewater discharges from the production area that have occurred in the previous twelve (12) months, including date, time, and approximate volume; and
 - g. A statement indicating whether the current version of the CAFO's NMP was developed or approved by a certified nutrient management planner.
 - h. Actual crops planted and actual yields for each field for the preceding twelve (12) months.
 - i. Results of all samples of manure, litter or process wastewater for nitrogen and phosphorus content for manure, litter and process wastewater that was land applied.
 - j. Results of calculations conducted in accordance with Parts III.A.3.g.i(B) (for the Linear Approach) and III.A.3.g.ii (for the Narrative Rate Approach).
 - k. Amount of manure, litter, and process wastewater applied to each field during the preceding twelve (12) months.
 - l. For CAFOs using the Narrative Rate Approach to address rates of application:
 - i. The results of any soil testing for nitrogen and phosphorus conducted during the preceding twelve (12) months.
 - ii. The data used in calculations conducted in accordance with Part III.A.7.f.
 - iii. The amount of any supplemental fertilizer applied during the preceding twelve (12) months.

PART VI. STANDARD PERMIT CONDITIONS

A. General Conditions

1. In accordance with the provisions of 40 CFR Part 122.41, et. seq., this permit incorporates by reference all conditions and requirements applicable to NPDES Permits set forth in the Clean Water Act, as amended, (hereinafter known as the “Act”) as well as all applicable regulations.
2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation, and reissuance; for denial of a permit renewal application; and/or for requiring a permittee to apply for and obtain an individual NPDES permit.
3. The permittee shall comply with effluent standards and prohibitions established under section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
4. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
5. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State/Tribal or local laws or regulations.
6. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
7. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the Permittee to criminal enforcement pursuant to 18 U.S.C. Section 1001.
8. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State/Tribal law or regulation under authority preserved by Section 510 of the Act.
9. The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
10. Bypass
 - a. *Definitions*
 - i. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

- ii. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - b. *Bypass not exceeding limitations.* The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 10.c. and 10.d. of this section.
 - c. *Notice*
 - i. *Anticipated bypass.* If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
 - ii. *Unanticipated bypass.* The permittee shall submit notice of unanticipated bypass as required in D.5. of this section (24-hour notice).
 - d. *Prohibitions of bypass.*
 - i. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (C) The permittee submitted notices as required under paragraph 10.c. of this section
 - ii. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 10.d.(i).
 - e. Any bypass allowed by Part VI.A.10 of this permit must, where practicable, be released to vegetated fields for filtering, or captured in secondary containment to minimize discharges to waters of the United States.
- 11. Upset
 - a. *Definition.* *Upset* means an exceptional incident in which 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 caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless or improper operation.
 - b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 11.c. of this section are met.

C. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Permitting Authority at any time.
3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
4. The permittee shall follow the following monitoring procedures:
 - a. Any required monitoring must be conducted according to test procedures approved in 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.
 - b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.
 - c. An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.

D. Reporting Requirements

1. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in § 122.29(b); or
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under § 122.42(a)(1).
 - c. The alteration or addition results in a significant change in the permittee's manure use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit., including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to a NMP.

2. The permittee shall give advance notice to EPA of any planned physical alterations or additions or changes in activity which may result in noncompliance with requirements in this permit.
3. This permit is not transferable to any person except after notice to EPA. EPA may require modification or revocation and reissuance of the permit to change the name or the permittee and incorporate such other requirements as may be necessary under the CWA.
4. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.
5. The permittee shall report any noncompliance that may endanger human health or the environment. Any information must be provided orally to within twenty-four (24) hours from the time that the permittee becomes aware of the circumstances to EPA at 214-665-6595. A written submission shall also be provided to EPA within fourteen (14) days of the time the permittee becomes aware of the circumstances. The report shall contain the following information:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
6. The following shall be included as information which must be reported within twenty-four (24) hours:
 - a. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - b. Any upset which exceeds any effluent limitation in the permit.
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within twenty-four (24) hours.The Director may waive the written report on a case-by-case basis for reports under the above if the oral report has been received within twenty-four (24) hours.
7. The permittee shall report all instances of noncompliance not reported under above and of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in D.6.
8. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to EPA, it shall promptly submit such facts or information to EPA.

E. Signatory requirements

All applications, reports, or information submitted to EPA shall be signed and certified consistent with 40 CFR §122.22:

1. All notices of intent shall be signed as follows:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - ii. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; or
 - b. For a partnership or sole proprietorship: By a general partner for a partnership or the proprietor, respectively.
2. All reports required by the permit and other information requested by EPA shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or any individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or an individual occupying a named position; and,
 - c. The written authorization is submitted to EPA.

F. Certification

Any person signing a document under this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

G. Availability of Reports

Any information submitted pursuant to this permit may be claimed as confidential by the submitter. If no claim is made at the time of submission, information may be made available to the public without further notice.

H. Penalties for Violations of Permit Conditions

1. Criminal Penalties:
 - a. Negligent violations: The Act provides that any person who negligently violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act or any condition or limitation implementing those provisions in a permit issued under Section 402 is subject to a fine of not less than \$2,750 nor more than \$37,500 per day of violation, or by imprisonment for not more than one year, or both.
 - b. Knowing violations: The Act provides that any person who knowingly violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act or any permit conditions implementing those provisions is subject to a fine of not less than \$5,500 nor more than \$55,000 per day of violation, or by imprisonment for not more than three years, or both.
 - c. Knowing endangerment: The Act provides that any person who knowingly violates Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act or permit conditions implementing those provisions and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$275,000, or by imprisonment for not more than 15 years, or both.
 - d. False statements: The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$11,000, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$22,000 per day of violation, or by imprisonment of not more than four years, or by both. [See Section 309(c)4 of the Clean Water Act]
2. Civil penalties: The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed \$27,500 per day for each violation. [See Section 309(d)]
3. Administrative penalties: The Act provides that the Administrator may assess a Class I or Class II administrative penalty if the Administrator finds that a person has violated Sections 301, 302, 306, 307, 308, 318, or 405 of the Act or a permit condition or limitation implementing these provisions, as follows [See Section 309(g)]:
 - a. Class I penalty: Not to exceed \$11,000 per violation nor shall the maximum amount exceed \$27,500.
 - b. Class II penalty: Not to exceed \$11,000 per day for each day during which the violation continues nor shall the maximum amount exceed \$137,500.

PART VII. DEFINITIONS

Animal feeding operation (AFO) means a lot or facility (other than an aquatic animal production facility) where the following conditions are met: (i) animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of forty-five (45) days or more in any 12-month period, and (ii) crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Application means the EPA standard national forms for seeking coverage under an NPDES permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in “approved States,” including any approved modifications or revisions [e.g. for NPDES general permits, a written “notice of intent” pursuant to 40 CFR 122.28; for NPDES individual permits, Form 1 and 2B pursuant to 40 CFR 122.1(d)].

Concentrated animal feeding operation (CAFO) means an AFO which is defined as a Large CAFO or Medium CAFO by 40 CFR 122.23(b)(4) and (6), or that is designated as a CAFO.

E. coli means the bacterial count (Parameter 1) at 40 CFR 136.3 in Table 1A, which also cites the approved methods of analysis.

Grab sample means a sample which is taken from a waste stream on a one-time basis without consideration of the flow rate of the waste stream and without consideration of time.

Land application means the application of manure, litter, or process wastewater onto or incorporated into the soil.

Land application area means land under the control of an CAFO owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied.

Large CAFO means an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories: (i) 700 mature dairy cattle, whether milked or dry; (ii) 1,000 veal calves; (iii) 1,000 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 2,500 swine each weighing 55 pounds or more; (v) 10,000 swine each weighing less than 55 pounds; (vi) 500 horses; (vii) 10,000 sheep or lambs; (viii) 55,000 turkeys; (ix) 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system; (x) 125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 82,000 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 30,000 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 5,000 ducks (if the AFO uses a liquid manure handling system).

Liquid manure handling system means a system that collects and transports or moves waste material with the use of water, such as in washing of pens and flushing of confinement facilities. This would include the use of water impoundments for manure and/or wastewater treatment.

Manure is defined to include manure, litter, bedding, compost and raw materials or other materials commingled with manure or set aside for land application or other use.

Medium CAFO means any AFO that stables or confines as many or more than the numbers of animals specified in any of the following categories: (i) 200 to 699 mature dairy cattle, whether milked or dry cows; (ii) 300 to 999 veal calves; (iii) 300 to 999 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 750 to 2,499 swine each weighing 55 pounds or more; (v) 3,000 to 9,999 swine each weighing less than 55 pounds; (vi) 150 to 499 horses, (vii) 3,000 to 9,999 sheep or lambs, (viii) 16,500 to 54,999 turkeys, (ix) 9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system; (x) 37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 25,000 to 81,999 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 10,000 to 29,999 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 1,500 to 4,999 ducks (if the AFO uses a liquid manure handling system) **and** either one of the following conditions are met (a) pollutants are discharged into waters of the United States through a man-made ditch, flushing system, or other similar man-made device; or (b) pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

Notice of Intent (NOI) is a form submitted by the owner/operator applying for coverage under a general permit. It requires the applicant to submit the information necessary for adequate program implementation, including, at a minimum, the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, and the receiving stream(s). [(40 CFR §128.28(b)(2)(ii)].

Process wastewater means water directly or indirectly used in the operation of the CAFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with or is a constituent of raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding.

Production area means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal containment area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Small CAFO means an AFO that is designated as a CAFO and is not a Medium CAFO.

Setback means a specified distance from waters of the United States or potential conduits to waters of the United States where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.

The Act means Federal Water Pollution Control Act as amended, also known as the Clean Water Act as amended, found at 33 USC 1251 et seq.

Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching waters of the United States.

APPENDIX A – APPLICATION FORM 2B FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (AND CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITIES)

EPA ID. NUMBER (copy from Item 1 of Form 1)		
FORM 2B NPDES	EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES
GENERAL INFORMATION Applying for: Individual Permit G Coverage Under General Permit G		
A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
<input type="checkbox"/> 1. Concentrated Animal Feeding Operation (complete items B, C, D, and section II) <input type="checkbox"/> 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/or Operator Name: Telephone: (.....) Address: Facsimile: (.....) City: State: Zip Code:	<input type="checkbox"/> 1. Existing Facility <input type="checkbox"/> 2. Proposed Facility
D. FACILITY INFORMATION		
Name: Telephone: (.....) Address: Facsimile: (.....) City: State: Zip Code: County: Latitude: Longitude: If contract operation: Name of Integrator: Address of Integrator:		
II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS		
A. TYPE AND NUMBER OF ANIMALS		B. Manure, Litter, and/or Wastewater Production and Use
2. ANIMALS		1. How much manure, litter, and wastewater is generated annually by the facility? tonsgallons 2. If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? acres 3. How many tons of manure or litter, or gallons of wastewater produced by the CAFO will be transferred annually to other persons?tons/gallons (circle one)
1. TYPE	NO. IN OPEN CONFINEMENT	NO. HOUSED UNDER ROOF
<input type="checkbox"/> Mature Dairy Cows		
<input type="checkbox"/> Dairy Heifers		
<input type="checkbox"/> Veal Calves		
<input type="checkbox"/> Cattle (not dairy or veal calves)		
<input type="checkbox"/> Swine (55 lbs. or over)		

<input type="checkbox"/> Swine (under 55 lbs.)			
<input type="checkbox"/> Horses			
<input type="checkbox"/> Sheep or Lambs			
<input type="checkbox"/> Turkeys			
<input type="checkbox"/> Chickens (Broilers)			
<input type="checkbox"/> Chickens (Layers)			
<input type="checkbox"/> Ducks			
<input type="checkbox"/> Other Specify			
3. TOTAL ANIMALS			

C. TOPOGRAPHIC MAP

D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY

1. Type of Containment	Total Capacity (in gallons)
<input type="checkbox"/> Lagoon	
<input type="checkbox"/> Holding Pond	
<input type="checkbox"/> Evaporation Pond	
<input type="checkbox"/> Other: Specify	

2. Report the total number of acres contributing drainage:acres

3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
<input type="checkbox"/> Anaerobic Lagoon		
<input type="checkbox"/> Storage Lagoon		
<input type="checkbox"/> Evaporation Pond		
<input type="checkbox"/> Aboveground Storage Tanks		
<input type="checkbox"/> Belowground Storage Tanks		
<input type="checkbox"/> Roofed Storage Shed		
<input type="checkbox"/> Concrete Pad		
<input type="checkbox"/> Impervious Soil Pad		
<input type="checkbox"/> Other: Specify		

E. NUTRIENT MANAGEMENT PLAN

Note: Effective February 27, 2009, a permit application is not complete until a nutrient management plan is submitted to the Permitting Authority.

1. Please indicate whether a nutrient management plan has been included with this permit application. G Yes G No

2. If no, please explain:

3. Is a nutrient management plan being implemented for the facility? G Yes G No

4. The date of the last review or revision of the nutrient management plan. Date:

5. If not land applying, describe alternative use(s) of manure, litter, and or wastewater:

F. LAND APPLICATION BEST MANAGEMENT PRACTICES

Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:

Buffers Setbacks Conservation tillage Constructed wetlands Infiltration field Grass filter Terrace

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS

A. For each outfall give the maximum daily flow, maximum 30- day flow, and the long-term average flow.			B. Indicate the total number of ponds, raceways, and similar structures in your facility.			
1. Outfall No.	2. Flow (<i>gallons per day</i>)			1. Ponds	2. Raceways	3. Other
	a. Maximum Daily	b. Maximum 30 Day	c. Long Term Average	C. Provide the name of the receiving water and the source of water		
				1. Receiving Water	2. Water Source	

--	--	--	--

D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.

1. Cold Water Species			2. Warm Water Species		
a. Species	b. Harvestable Weight (pounds)		a. Species	b. Harvestable Weight (pounds)	
	(1) Total Yearly	(2) Maximum		(1) Total Yearly	(2) Maximum

E. Report the total pounds of food during the calendar month of maximum feeding.

1. Month	2. Pounds of Food
----------	-------------------

IV. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Name and Official Title (<i>print or type</i>)	B. Phone No. ()
C. Signature	D. Date Signed

INSTRUCTIONS

<p>GENERAL</p> <p>This form must be completed by all applicants who check “yes” to Item II-B in Form 1. Not all animal feeding operations or fish farms are required to obtain NPDES permits. Exclusions are based on size and whether or not the facility discharges proposed to discharge. <i>See</i> the description of these exclusions in the CAFO regulations at 40 CFR 122.23.</p> <p>For aquatic animal production facilities, the size cutoffs are based on whether the species are warm water or cold water, on the production weight per year in harvestable pounds, and on the amount of feeding in pounds of food (<i>for cold water species</i>). Also, facilities which discharge less than 30 days per year, or only during periods of excess runoff (<i>for warm water fish</i>) are not required to have a permit.</p> <p>Refer to the Form 1 instructions to determine where to file this form.</p> <p>Item I-A</p> <p>See the note above to be sure that your facility is a “concentrated animal feeding operation” (CAFO).</p> <p>Item I-B</p> <p>Use this space to give owner/operator contact information.</p> <p>Item I-C</p> <p>Check “proposed” if your facility is not now in operation or is expanding to meet the definition of a CAFO in accordance with the CAFO regulations at 40 CFR 122.23.</p> <p>Item I-D</p> <p>Use this space to give a complete legal description of your facility’s location including name, address, and latitude/longitude. Also, if a contract grower, the name and address of the integrator.</p> <p>Item II</p> <p>Supply all information in item II if you checked (1) in item I-A.</p> <p>Item II-A</p> <p>Give the maximum number of each type of animal in open confinement or housed under roof (either partially or totally) which are held at your facility for a total of 45 days or more in any 12 month period. Provide the total number of animals confined at the facility.</p> <p>Item II-B</p> <p>Provide the total amount of manure, litter, and wastewater generated annually by the facility. Identify if manure, litter, and wastewater generated by the facility is to be land applied and the number of acres, under the control of the CAFO operator, suitable for land application. If the answer to question 3 is yes, provide the estimated annual quantity of manure, litter, and wastewater that the applicant plans to transfer off-site.</p> <p>Item II-C</p> <p>Check this box if you have submitted a topographic map of the entire operation, including the production area and land under the operational control of the CAFO operator where manure, litter, and/or wastewater are applied with Form 1.</p>	<p>Item II-D</p> <ol style="list-style-type: none"> 1. Provide information on the type of containment and the capacity of the containment structure (s). 2. The number of acres that are drained and collected in the containment structure (s). 3. Identify the type of storage for the manure, litter, and/or wastewater. Give the capacity of this storage in days. <p>Item II-E</p> <p>Provide information concerning the status of submitting a nutrient management plan for the facility to complete the application. In those cases where the nutrient management plan has not been submitted, provide an explanation. If not land applying, describe the alternative uses of the manure, litter, and wastewater (e.g., composting, pelletizing, energy generation, etc.).</p> <p>Item II-F</p> <p>Check any of the identified conservation practices that are being implemented at the facility to control runoff and protect water quality.</p> <p>Item III</p> <p>Supply all information in Item III if you checked (2) in Item I-A.</p> <p>Item III-A</p> <p>Outfalls should be numbered to correspond with the map submitted in Item XI of Form 1. Values given for flow should be representative of your normal operation. The maximum daily flow is the maximum measured flow occurring over a calendar day. The maximum 30-day flow is the average of measured daily flow over the calendar month of highest flow. The long-term average flow is the average of measure daily flows over a calendar year.</p> <p>Item III-B</p> <p>Give the total number of discrete ponds or raceways in your facility. Under “other,” give a descriptive name of any structure which is not a pond or a raceway but which results in discharge to waters of the United States.</p> <p>Item III-C</p> <p>Use names for receiving water and source of water which correspond to the map submitted in Item XI of Form 1.</p> <p>Item III-D</p> <p>The names of fish species should be proper, common, or scientific names as given in special Publication No. 6 of the American Fisheries Society. “A List of Common and Scientific Names of Fishes from the United States and Canada.” The values given for total weight produced by your facility per year and the maximum weight present at any one time should be representative of your normal operation.</p> <p>Item III-E</p> <p>The value given for maximum monthly pounds of food should be representative of your normal operation.</p> <p>Item IV</p> <p>The Clean Water Act provides for severe penalties for submitting false information on this application form.</p> <p>Section 309(C)(2) of the Clean Water Act provides that “Any person who knowingly makes any false statement, representation, or certification in any application..shall upon conviction, be punished by a fine of no more than \$10,000 or by imprisonment for not more than six months, or both.”</p>
--	--

	<p>Federal regulations require the certification to be signed as follows:</p> <ul style="list-style-type: none">A. For corporation, by a principal executive officer of at least the level of vice president.B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; orC. For a municipality, State, federal, or other public facility, by either a principal executive officer or ranking elected official. <p>Paper Reduction Act Notice</p> <p>The public reporting and recordkeeping burden for this collection of information is estimated to average 9.5 hours per response. The public reporting and recordkeeping burden for development of the nutrient management plan to be submitted with the form is estimated to average 46 hours per response. The estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the collection of information. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address. Send comments regarding the burden estimate or any other aspect of this collection of information to the Chief, Information Strategies Branch (2822T), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, and the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, Attention: Desk Officer for EPA. Please refer to EPA ICR No. 1989.05 for additional information.</p>
--	---

APPENDIX B – NOTICE OF TERMINATION

Notice of Termination (NOT)

NPDES Permit Number: _____

Date NOI was submitted: _____

Name and Address of Facility (include County):

Telephone Number: _____

Name of Operator: _____

Reason for the termination of permit coverage:

(Add attached sheets if necessary.)

I certify that I am familiar with the operation of this facility; the facility closure requirements of NMOG10000 have been fulfilled in accordance with Part III.B; and, to the best of my knowledge, the information provided is true, complete, and accurate.

Name (print): _____

Title: _____

Signature: _____

Date Signed: _____

Signature must be in accordance with Part VI.E of NMOG10000.

APPENDIX C - HISTORIC PROPERTIES REQUIREMENTS

Coverage under this permit is available only if your CAFO discharges and discharge-related activities meet one of the eligibility criteria below, following the procedures in Appendix C:

Criterion A. Your CAFO discharges do not have the potential to have an effect on historic properties and you are not constructing or installing new control measures on your site that cause subsurface disturbance; or

Criterion B. Your discharge-related activities (i.e., construction and/or installation of control measures that involve subsurface disturbance) will not affect historic properties; or

Criterion C. Your CAFO discharges and discharge-related activities have the potential to have an effect on historic properties; you have consulted with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other tribal representative regarding measures to mitigate or prevent any adverse effects on historic properties; and, you have either (1) obtained and are in compliance with a written agreement that outlines all such measures, or (2) been unable to reach agreement on such measures; or

Criterion D. You have contacted the SHPO, THPO, or other tribal representative and EPA in writing informing them that you have the potential to have an effect on historic properties and you did not receive a response from the SHPO, THPO, or tribal representative within 30 days of receiving your letter.

If you have been unable to reach agreement with a SHPO, THPO, or other tribal representative regarding appropriate measures to mitigate or prevent adverse effects, EPA may notify you of additional measures you must implement to be eligible for coverage under this permit.

CAFO operators must determine whether their permit-related activities have potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places. CAFO operators must contact the SHPO, THPO, and/or any Indian tribe that attaches religious and cultural significance to historic properties that may be affected. In instances where a Tribe does not have a THPO, CAFO operators should contact the appropriate Tribal government office.

New Mexico SHPO, THPO and Tribal officials may be contacted at the following addresses:

Historic Preservation Officers (SHPO)

New Mexico State Historic Preservation Officer
Department of Cultural Affairs
Historic Preservation Division
228 East Palace Avenue, Santa Fe, NM 87503
Telephone 505-827-6320; FAX: 505-827-6338
www.nmhistoricpreservation.org

**Tribal Government Officials
(THPOs for Mescalero Apache Tribe, Navajo Nation, and Pueblo of Zuni)**

The most recent contact information for Tribal governments and Tribal Historic Preservation Officers may be accessed at: <http://www.epa.gov/earth1r6/6dra/oejta/tribalaffairs/index.html> or by contacting EPA, Region 6 Tribal Affairs Office at:

NPDES Permit No. NMG010000

Page 2 of Appendix C

Region 6 Office of Environmental Justice and Tribal Affairs
1445 Ross Ave., Suite 1200
Dallas, TX 75202
Telephone 1-800-887-6063

**APPENDIX D – NM NRCS CONSERVATION PRACTICE STANDARD CODE 590
(NUTRIENT MANAGEMENT) FROM OCTOBER 2006**

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

NUTRIENT MANAGEMENT

(Acre)

CODE 590

DEFINITION

Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.

PURPOSES

- ◆ To budget and supply nutrients for plant production.
- ◆ To properly utilize manure or organic by-products as a plant nutrient source.
- ◆ To minimize agricultural non-point source pollution of surface and ground water resources.
- ◆ To protect air quality by reducing nitrogen emissions (ammonia and NO_x compounds) and the formation of atmospheric particulates.
- ◆ To maintain or improve the physical, chemical and biological condition of soil.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands where plant nutrients and soil amendments are applied.

CRITERIA

General Criteria Applicable to All Purposes

A nutrient budget for nitrogen, phosphorus, and potassium shall be developed that considers all potential sources of nutrients including, but not limited to animal manure and organic by-products,

wastewater, commercial fertilizer, crop residues, legume credits, and irrigation water. Organic and inorganic fertilizer recommendation budgets will be developed using New Mexico State University's (NMSU) fertilizer recommendation software **NMSU Soil Test Interpretation software** (Excel workbook) or other NRCS approved software.

Realistic yield goals shall be established based on soil productivity information, historic yield data, climatic conditions, level of management and/or local research on similar soil, cropping systems, and soil and manure/organic by-products tests. For new crops or varieties, industry yield recommendations may be used until documented yield information is available. The NRCS state agronomist and NMSU shall establish yield goals and nutrient requirements for new crops as soon as possible.

Plans for nutrient management shall specify the source, amount, timing and method of application of nutrients on each field to achieve realistic production goals, while minimizing movement of nutrients to surface and/or ground waters.

Areas contained within established minimum application setbacks (e.g. sinkholes, wells, gullies, ditches, surface inlets or rapidly permeable soil areas) shall not receive direct application of nutrients.

Erosion, runoff, and water management controls shall be installed, to meet Section III of the FOTG, on fields that receive nutrients. Irrigated fields must have an Irrigation Water Management practice developed (Practice Code 449).

Agricultural waste shall not be land-applied on soils that are frequently flooded, as defined by the National Cooperative Soil Survey, during periods when flooding is expected.

Soil Testing

Nutrient planning shall be based on a current soil test developed in accordance with NMSU guidance or industry practice if recognized by NMSU. Current soil tests are those that are no older than five years. Annually cropped fields will have a soil test taken the first year of a new plan or rotation, thereafter once in five years as a minimum. Hayland, rangeland and pasture can be tested once in five years. If organic sources of fertilizers are used, annual soil testing is required.

On fields that do not receive organic nutrients, after a baseline of two sampling periods, similar fields (rotation, soil series, slope, and irrigation type) can use a composite or aggregate (combined) sample to represent the group of fields. Nutrient recommendations for each crop can be made according to the results of the composite soil test.

Soil samples shall be collected and prepared according to the NMSU Extension guidance (Guide A-114). Fields must have 10-15 sub-samples taken to make up the composite sample to be analyzed.

Soil test analyses shall be performed by laboratories that are accepted in one or more of the following programs:

- ◆ The North American Proficiency Testing Program (Soil Science Society of America), or
- ◆ Laboratories whose tests are accepted by the NMSU.

Soil testing shall include analysis for any nutrients for which specific information is needed to develop the nutrient plan. Request analyses specified in NMSU Extension Guide A-122. These analyses will include: **pH, electrical conductivity (EC), soil organic matter (OM), nitrate nitrogen (N), phosphorus (P), potassium (K), magnesium (Mg), calcium (Ca), and sodium (SAR)**. Many soils and crops in NM also show a need for sulfur, zinc, manganese, and other micronutrients. If the pH is greater than seven, an Olsen (Sodium Bicarbonate) P-test will be done. At a pH of less than seven, the Bray P-test will be done. K-test will be done using the water extraction method. Ammonium acetate

extractable K is also acceptable. Soil pH and electrical conductivity will be determined by saturation extract (salinity assessment).

Exchangeable calcium, magnesium, and sodium, shall also be determined during salinity assessment to assess the sodium adsorption ratio and exchangeable sodium percentage.

Low Nitrate Soil Tests

If a soil test comes back from the lab with a test value for N at less than 1 ppm, the sample shall be rerun at the lab (same sample). If the rerun of the first sample is still less than 1 ppm, then a new sample will be taken in the field, and re-tested.

Plant Tissue Testing

Tissue sampling and testing, if used, shall be done in accordance with NMSU standards or recommendations. See NMSU Extension Guide A-123. Additional nutrients above the budget amounts may be added if interpretation of the tissue testing shows a need.

Nutrient Application Rates

Recommended nutrient application rates shall be based on NMSU recommendations (see Fertilizer Guide Extension A-128) and/or industry practice, when recognized by NMSU, that consider current soil test results (see above), realistic yield goals and management capabilities. NMSU Fertilizer Interpretation software (Excel workbook) or other NRCS approved software may be used to generate a nutrient budget for a given crop.

The planned rates of nutrient application, as documented in the nutrient budget, shall be determined based on the following guidance:

- **Nitrogen Application** - Planned nitrogen (N) application rates shall match the recommended rates, except when manure or other organic by-products are a source of nutrients. When manure or other organic by-products are a source of nutrients, see "Additional Criteria" below.
- **Phosphorus Application** - Planned phosphorus (P₂O₅) application rates shall match the recommended rates, except when manure or other organic by-products are a source of nutrients. When manure or other organic by-products are a source of nutrients, see "Additional Criteria" below.

- **Potassium Application** - Excess potassium shall not be applied in situations in which it causes unacceptable nutrient imbalances in crops or forages. When forage quality is an issue associated with excess potassium application, state standards shall be used to set forage quality guidelines.
- **Other Plant Nutrients** - The planned rates of application of other nutrients shall be consistent with NMSU guidance or industry practice, if recognized by the NMSU.
- **Starter Fertilizers** - Starter fertilizers containing nitrogen, phosphorus, potassium, and/or micronutrients may be applied in accordance with NMSU recommendations or industry practice, if recognized by NMSU. When starter fertilizers are used, they shall be included in the nutrient budget.
- **Soil amendments** can be applied, as needed, to adjust soil pH to the specific range of the crop for optimum availability and utilization of nutrients. Most conditions will not require a pH change. NM soils range from pH 6 to 8.5 s.u. Many soils have large amounts of free lime which prevents pH adjustment with amendments such as sulfur.

Nutrient Application Timing

Timing and method of nutrient application shall correspond as closely as possible with plant nutrient uptake characteristics, while considering cropping system limitations, weather and climatic conditions, and field accessibility.

Nutrient Application Methods

Nutrient applications associated with irrigation systems shall be applied in accordance with the requirements of the Irrigation Water Management practice (Practice Code 449). Fertigation must not exceed the water holding capacity of the soil.

Additional Criteria Applicable to Manure or Other Organic By-Products Applied as a Plant Nutrient Source

SPACING

Nutrient Values

Nutrient values of manure and other organic by-products shall be determined prior to land

application based on laboratory analysis, acceptable “book values” recognized by the NRCS and/or NMSU, or historic records for the operation (two or three years of no operational change), if they accurately estimate the nutrient content of the materials. At a minimum, manure analyses shall identify nutrient and specific ion concentrations, percent moisture, and percent organic matter. Salt concentration shall be monitored so that manure applications do not cause plant damage or negatively impact soil quality.

Book values recognized by NRCS may be found in the Agricultural Waste Management Field Handbook (AWMFH), Chapter 4 – Agricultural Waste Characteristics. Acceptable values for NM can be found in the NM Nutrient Management specification. Heavy metals in biosolids have additional criteria.

Additional Soil Testing Requirements

Nitrogen soil testing for permitted Confined Feeding Operations will have the following additional requirements. Total soil nitrogen levels will be determined by Kjeldahl methods. Exchangeable nitrate will be determined by the Keeney and Nelson method using KCl.

Additional Soil Sampling Requirements

Land with a history of different application rates within the field may be required to have separate soil testing and different application rates. The New Mexico Environment Department (NMED) may require additional sampling to determine the extent of the variability and what applications can be made to zones in the field.

Nutrient Application Rates

The application rate (in/hr) for material applied through irrigation shall not exceed the soil intake/infiltration rate. The total application of water shall not exceed the water holding capacity of the soil root zone. See the Irrigation Guide in the NM Field Office Technical Guide (FOTG, Sec I) for local soil water holding capacities and soil intake rates. Application rates must be adjusted to match the soil intake rate.

The planned rates of nitrogen and phosphorus application recorded in the specification shall be determined based on the following guidance:

Nitrogen Application –

Normal N test – When the application rate is based on N (P Index <27) and the preplant/preapplication soil nitrate reading is less than 30 ppm, the **normal agronomic rates of application will be used** (as explained under Nutrient Application Rates).

High N test – When the soil N test is between 30-200 ppm nitrate, **additional testing will be done** to determine when more manure can be added. Additional testing will be done 25% of the way into the growth period of the crop (120 day corn would be tested 30 days after planting). If the preapplication (crop growing) soil test is less than 80 ppm, a maximum rate of 30 lbs/ac of N can be applied.

Excessive N test – When the soil N test is greater than 200 ppm nitrate, **no more organic nutrient sources containing N can be applied** until the level drops below 80 ppm. Additional testing will be done 25% of the way into the growth period of the crop (120 day corn would be tested 30 days after planting). If the preapplication (crop growing) soil test is less than 80 ppm, a maximum rate of 30 lbs/ac of N can be applied.

P index >27 – When the practice is being implemented on a phosphorus standard (when the Phosphorus Index is High, Very High, or Excessive), manure or other organic by-products shall be applied at rates consistent with budgeting for P as described below under Phosphorus Application. In such situations, an additional nitrogen application, from non-organic sources, may be required to supply the recommended amounts of nitrogen.

N Applied to Legumes - Manure or other organic by-products may be applied on legumes at rates equal to 60 percent of the estimated removal of nitrogen in harvested plant biomass. See NM Nutrient Management Specification and the NMSU Soil Test Interpretation workbook.

Phosphorus Application - When manure or other organic by-products are used, the planned rates of phosphorus application will use the NM Phosphorus Index as follows:

- **Phosphorus Index (PI) Rating.** On **Very Low, Low or Medium risk sites**, application rates will be based on nitrogen crop need. On **Very High risk sites**, application rates will be based on phosphorus crop need. On **Excessive risk sites**, no phosphorus application is allowed. On **High risk sites**, the application rate will be based on 1.5 times the crop removal rate. The PI for NM is found in Agronomy Technical Note 41, and is available as a MS-Excel spread sheet found on NRCS's NM website.
<http://www.nm.nrcs.usda.gov/techserv/TechNotes/agro.htm>

A single application of phosphorus applied as manure may be made at a rate equal to the recommended phosphorus application or estimated phosphorus removal in harvested plant biomass for the crop rotation or multiple years in the crop sequence. This can only be done when the PI is **Very-Low, Low, or Medium**. When such applications are made, the application rate shall:

- not exceed the recommended nitrogen application rate during the year of application, or:
- not exceed the estimated nitrogen removal in harvested plant biomass during the year of application when there is no recommended nitrogen application.
- not be made on sites considered vulnerable to off-site phosphorus transport unless appropriate conservation practices, and management activities are used to reduce the vulnerability. Leaching and runoff practices must be included in the resource management plan.

Timing of application

Manure shall not be applied on frozen, flooded, or saturated soil.

Apply at the times when crops will use the most nutrients. This is when the most growth is expected for the crop.

In times when crops are not actively growing, apply only as much pond effluent as can be held in the planned crop root zone. For example: if the root zone profile can hold 4 inches of water (Total Water Holding Capacity (TWHC)) and the soil moisture is at 75% TWHC, then a 1-inch application is the most that can be applied.

SPACING

Animal Feeding Operations-Setback Requirements

SPACING

Setbacks are required for application of manure, litter, and lagoon or pond wastewater. No application can be made closer than 100-feet to any down gradient surface open tile line intake structure, sink holes, well heads, or other conduits to surface or ground water.

A vegetated buffer (grass, no shrubs) 35- feet wide or more will allow organic application adjacent to the buffer.

Field Risk Assessment

When animal manures or other organic by-products are applied, a field-specific assessment of the potential for phosphorus transport from the field shall be completed. This assessment will be done using the **NM Phosphorus Index (PI)**. In such cases, plans shall include:

- a record of the PI rating for each field or sub-field, and
- information about conservation practices and management activities that can reduce the potential for phosphorus movement from the site. Practices will be listed in the Comment section on the worksheet.

When such assessments are done, the results of the assessment and recommendations shall be discussed with the client as the practice is planned. The client will initial the review on the PI worksheet.

Heavy Metals Monitoring

When biosolids are applied, the accumulation of potential pollutants (including arsenic, cadmium, copper, lead, mercury, selenium, and zinc) in the soil shall be monitored in accordance with the US Code, Reference 40 CFR, Parts 403 and 503.

Where municipal wastewater and solids (biosolids) are applied to agricultural lands as a nutrient source, the single application (annual limit) or lifetime limits of heavy metals shall not be exceeded. The concentration of salts shall not exceed the level that will impair seed germination or plant growth.

Maximum Annual and Lifetime Heavy Metal Additions to the Soils¹		
Metal (name/sym.)	Annual Limit (lbs/ac/yr)	Lifetime Limit (lbs/ac)
Arsenic (As)	2.2	46.0
Cadmium (Cd)	2.3	33.0
Copper (Cu)	84.0	1500.0
Lead (Pb)	17.0	336.0
Mercury (Hg)	0.95	19.0
Nickel (Ni)	24.0	19.0
Selenium (Se)	5.6	112.0
Zinc (Zn)	157.0	3136.0

¹From the Code of Federal Regulations, Title 40, Vol 3, Part 503, Sec. 13, July 1 , 1999

Biosolids Applications

Biosolids shall not be applied to land that is closer than 100 feet to any water course.

Biosolids shall not be applied to land that is flooded, frozen, snow-covered or saturated soil.

Animals shall not be allowed to graze on the land for 30 days after the application of biosolids.

Food crops with harvested parts that touch applied biosolids and are totally above the soil surface shall not be harvested for 14 months after the application. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of biosolids, when the application

remains on the land surface for four months or longer prior to incorporation into the soil. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of biosolids when the application remains on the land surface for less than four months.

Additional Criteria to Minimize Agricultural Non point Source Pollution of Surface and Ground Water Resources

An assessment shall be completed of the potential for nitrogen and/or phosphorus transport from the field if any waters of concern may be affected. Waters of concern include but are not limited to waters of the US, 303d listed streams, wells, other streams, high ground water, ponds, arroyos that flow part of the year, and lakes. The **Leaching Index (LI)** and/or **Phosphorus Index (PI)**, or other recognized assessment tools, may be used to make these assessments. The results of these assessments and recommendations shall be discussed with the client and included in the practice planning.

Nutrient Management practices developed to minimize agricultural non-point source pollution of surface or ground water resources shall include practices and/or management activities that can reduce the risk of nitrogen or phosphorus movement from the field.

Additional Criteria to Protect Air Quality by Reducing Nitrogen and/or Particulate Emissions to the Atmosphere

In areas with an identified or designated nutrient management related air quality concern, any component(s) of nutrient management (i.e., amount, source, placement, form, timing of application) identified by risk assessment tools as a potential source of atmospheric pollutants shall be adjusted, as necessary, to minimize the loss(es).

When tillage can be performed, surface applications of manure and fertilizer nitrogen formulations that are subject to volatilization on the soil surface (e.g., urea) shall be incorporated into the soil within 24 hours after application.

When manure or organic by-products are applied to grassland, hayland, pasture or minimum-till areas,

the rate, form and timing of application(s) shall be managed to minimize volatilization losses.

When liquid forms of manure are applied with irrigation equipment, operators will select weather conditions during application that will minimize volatilization losses.

Operators will handle and apply dry types of animal manures when the potential for wind-driven loss is low and there is less potential for transport of particulates into the atmosphere.

Weather and climatic conditions during manure or organic by-product application(s) shall be recorded and maintained in accordance with the operation and maintenance section of this standard.

Additional Criteria to Improve the Physical, Chemical, and Biological Condition of the Soil.

Nutrients shall be applied and managed in a manner that maintains or improves the physical, chemical and biological condition of the soil. Use of nutrient sources with high salt content relative to the nutrient value will be minimized to prevent damage to plants. Salt levels will be monitored by soils testing to see that they do not exceed the permissible EC rate for the crop to be grown. See Table 4 in the NM Irrigation Guide in Sec. 1 of the FOTG for the maximum allowable salt levels by crop.

Nutrients shall not be applied to flooded or saturated soils by ground equipment when the potential for soil compaction and creation of ruts is high.

Additional Criteria for Subsurface Drip Irrigation

If nutrients are added to subsurface drip irrigation systems (SDI), a jar test must be done to determine if any of the material being added to the system will cause solids to precipitate out causing the system to plug and fail. The jar test is simply a mixture of the fertilizers (at the field concentration) applied to the water and left to stand to see if any of material settles out. See Agronomy Tech Note 71.

CONSIDERATIONS

During the planning process, consider the relationship between nitrogen and phosphorus transport and water quality impairment. Consider the potential for nitrogen leaching into shallow ground

water and potential health impacts. Consider the potential for phosphorus accumulation in the soil, the increased potential for phosphorus transport in soluble form, and the types of water quality impairment that could result from phosphorus movement into surface water bodies.

Consider the intent of this practice to prevent the nutrients (nitrogen and phosphorus) supplied for production purposes from contributing to water quality impairment.

Consider additional practices such as Conservation Cover (327), Grassed Waterway (412), Contour Buffer Strips (332), Filter Strip (393), Irrigation Water Management (449), Riparian Forest Buffer (391A), Conservation Crop Rotation (328), Cover and Green Manure (340), and Residue Management (329A, 329B, or 329C, and 344) to improve soil nutrient and water storage, infiltration, aeration, tillage, diversity of soil organisms and to protect or improve water quality.

When applicable, plans shall include other practices or management activities as determined by specific regulation, program requirements, or client goals.

Consider induced deficiencies of nutrients due to excessive levels of other nutrients.

Consider cover crops whenever possible to utilize and recycle residual nitrogen.

Consider application methods and timing that reduce the risk of nutrients being transported to ground and surface waters, or into the atmosphere. Suggestions include:

- ◆ split applications of nitrogen to provide nutrients at the times of maximum crop utilization,
- ◆ avoid winter nutrient application for spring seeded crops,
- ◆ avoid winter plow out of alfalfa to release nitrate when plants can use it in the spring,
- ◆ band apply phosphorus near the seed row,
- ◆ use precision agricultural techniques to apply nutrient materials uniformly;
- ◆ incorporation of applied manure or organic by-products immediately;
- ◆ delay field application of animal manures or other organic by-products if precipitation capable of producing runoff and erosion is

forecast within 24 hours of the time of the planned application.

- ◆ Ammonia based N fertilizers should be incorporated the same day applied.

Consider minimum application setback distances from environmentally sensitive areas, such as sinkholes, wells, gullies, ditches, surface inlets or rapidly permeable soil areas. See NRCS Practice standard 633 for guidance.

Consider the potential problems from odors associated with the land application of animal manures, especially when applied near or upwind of residences.

Consider nitrogen volatilization losses associated with the land application of animal manures. Volatilization losses can become significant, if manure is not immediately incorporated into the soil after application. Consider using soil test information no older than one year, particularly if organic nutrients are used.

Consider annual reviews to determine if changes in the nutrient budget are desirable (or needed) for the next planned crop. If livestock numbers change up or down 20%, or land area increases or decreases by 20%, or the crop rotation changes, a review of the nutrient budget is needed.

On sites on which there are special environmental concerns, consider other sampling techniques. (For example: Soil profile sampling for nitrogen, Pre-Sidedress Nitrogen Test (PSNT), or soil surface sampling for phosphorus accumulation or pH changes.)

Consider ways to modify the chemistry of animal manure, including modification of the animal's diet to reduce the manure nutrient content, to enhance the client's ability to manage manure effectively.

For rapidly growing crops, apply waste in a manner that should cover no more than 25% of the leaf surface with solids.

To prevent leaf burn for some crops, apply liquids according to local climatic conditions or the NRCS irrigation guide. Application rate should vary according to the salt content (electrical conductivity for the liquid and the salt tolerance of the crop). See Table 4 in the Irrigation Water Quality section of the Irrigation Guide in Section I of the FOTG.

Avoid applying manure and organic byproducts upwind of occupied structures when residents are likely to be home (evenings, weekends and holidays).

When applying manure with irrigation equipment, modifying the equipment can reduce the potential for volatilization of nitrogen from the time the manure leaves the application equipment until it reaches the surface of the soil (e.g. reduced pressure, drop down tubes for center pivots). N volatilization from manure in a surface irrigation system will be reduced when applied under a crop canopy.

Plan nutrient applications and tillage operations to promote soil carbon buildup and decrease greenhouse gas emissions (e.g. nitrous oxide, N₂O, carbon dioxide, CO₂).

CAFO operations seeking permits under USEPA regulations (40CFR Parts 122 and 412) should consult with the permitting authority for additional criteria.

PLANS AND SPECIFICATIONS

Plans and specifications shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s), using nutrients to achieve production goals and to prevent or minimize resource impairment. See **New Mexico Nutrient Management Specification 590** for required components.

OPERATION AND MAINTENANCE

The owner/client is responsible for safe operation and maintenance of this practice including all equipment. **Operation and maintenance will address the following:**

- Periodic specification review to determine if adjustments or modifications to the practice are needed. **As a minimum**, the specification will be reviewed and revised with each soil test cycle.
- Protection of fertilizer and organic by-product storage facilities from weather and accidental leakage or spillage.
- Calibration of application equipment to ensure uniform distribution of material at planned rates.

- Documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.

Maintaining records to document practice implementation. As applicable, records include:

- soil test, water, plant, and organic by-product test results and recommendations for nutrient application,
- quantities, analyses and sources of nutrients applied,
- dates and method of nutrient applications,
- crops planted, planting and harvest dates, yields, and crop residues removed,
- dates of review and person performing the review, and recommendations that resulted from the review.

Records should be maintained for five years; or for a period longer than five years if required by other Federal, state, or local ordinances, or program or contract requirements.

Workers should be protected from and avoid unnecessary contact with chemical fertilizers and organic by-products. Protection should include the use of protective clothing when working with plant nutrients. Extra caution must be taken when handling ammonia sources of nutrients, or when dealing with organic wastes stored in unventilated enclosures.

The disposal of material generated by the cleaning nutrient application equipment should be accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching.

The disposal or recycling of nutrient containers should be done according to state and local guidelines or regulations.

REFERENCES

Extension publications mentioned above are available on the NMSU website, <http://www.cahe.nmsu.edu/pubs/> a/

The Animal Waste Management Field Handbook is available in most NRCS County Field Offices. It can also be accessed from the NRCS National website, <http://www.nrcg.nrcs.usda.gov/awmfh.html>

NMSU Fertilizer Interpretation software, Phosphorus Assessment Tool, and other technical information is available on the NM NRCS website, <http://www.nm.nrcs.usda.gov/technical/fotg/section-4/jobsheets/js590.xls> and <http://www.nm.nrcs.usda.gov/technical/tech-notes/agro/ag57.xls>

The Code of Federal Regulations can be accessed from the website, <http://www.access.gpo.gov/nara/cfr/index.html>. State regulations may be accessed from the New Mexico Environment Department website, <http://www.nmenv.state.nm.us>.

Bremner, J.M. and C.S. Mulvaney. 1982. Nitrogen – Total. *In* Methods of Soil Analysis Part 2. Page, A.L. (ed.) American Society of Agronomy and Soil Science Society of Agronomy, Madison, WI. Pp 595 – 624.

Follett, R.F. 2001. Nitrogen Transformation and Transport Processes. pp. 17-44, In R.F. Follett and J. Hatfield. (eds.). 2001. Nitrogen in the Environment; Sources, Problems, and Solutions. Elsevier Science Publishers. The Netherlands. 520 pp.

Keeney, D.R., and D.W. Nelson. 1982. Nitrogen – Inorganic Forms. *In* Methods of Soil Analysis Part 2. Page, A.L. (ed.) American Society of Agronomy and Soil Science Society of Agronomy, Madison, WI. Pp 643 - 698.

Sims, J.T. (ed.) 2005. Phosphorus: Agriculture and the Environment. Agron. Monogr. 46. ASA, CSSA, and SSSA, Madison, WI.

Stevenson, F.J. (ed.) 1982. Nitrogen in Agricultural Soils. Agron. Series 22. ASA, CSSA, and SSSA, Madison, WI.