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# chapter ten

## Record Keeping

*Karl VanDevender, Mike Daniels, and Melony Wilson*

From a farm production and profitability perspective, records have always been an important tool when making management decisions. This importance is emphasized in difficult economic times when expenditures and production have to be closely managed.

Today's trend of increasing environmental concerns, additional regulations, and increased potential for criminal and civil action against violators adds additional importance of thorough records. To protect the environment and comply with regulations, appropriate practices need to be implemented. In addition, there must be adequate records and documentation necessary to "prove" the appropriate practices have been implemented. From a legal perspective, the lack of documentation implies that appropriate practices did not take place and, therefore, the environment was not protected and regulations were violated.

Clearly, simply protecting the environment is not enough. Land managers must take the steps necessary to protect the environment, meet regulatory requirements, and be able to document their actions. Proper documentation and record keeping practices are an essential part of this process. As such, documentation and record keeping is critical for the continued success of a farming operation.



Some of the needed information for adequate documentation is recorded by the landowner. However, if an outside Nutrient Management Plan Writer or Custom Applicator is used, they should be documenting their own activities and providing appropriate information to the landowner.

To adequately document on-farm actions, certain types of records need to be maintained. What types of records, where to keep them, and how long to keep them, depends on the applicable regulations. However, there are some general concepts that apply to most regulatory requirements.

Records can be classified by what part of the operation they pertain to. General overall operational or Nutrient Management Plan records document general information regarding type, location, size, available nutrient application acreage, and ownership of the regulated operation. For confined livestock and poultry operations there will be records associated with the production areas, or those areas dedicated to animal housing, feed storage, and manure storage. The documentation will include such items as the normal animal population, estimated manure production, and available manure storage volumes. Land application records document the dispersal of nutrients, either manure or commercial fertilizer, to receiving fields. These records will document information like the field receiving nutrients, the volume of material applied, the area applied to, and the date of application.

Documentation requirements will also dictate how often records are collected. Some information, such as routine operational inspections, is recorded on a fixed time interval such as daily, weekly, or quarterly. Other information, such as land applications, is documented on an event basis.

Whether the records are being kept to document landowner, plan, or custom applicator actions also determines what kind of records should be maintained. A landowner will need to keep records of the actions that describe or take place on his farm. The

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planner and custom applicator should document the services he has provided and to whom he has provided them.

Another important consideration is reporting requirements. Some regulations require annual reports be completed and submitted to the regulatory agency by specific dates. Other regulations don't require the submission of reports. But they do require that the records be made available to inspectors upon request. The actual location of where the records are kept and how long they should be kept is specified by some regulations.

Most regulations provide specifics on the type, timing, reporting, and keeping of the required records. However, they don't typically dictate the form or layout of the records. This means that computer based records are often acceptable, although paper backup copies are a good idea. Also, the layout of the record forms can sometimes be modified to better fit the needs of an individual operation provided the required information is documented. For copies of various forms and examples refer to the appendix, the appropriate regulatory agency, or the Extension Service. In addition to the minimum records, and to assist in the completion of the forms, some have suggested keeping a simple journal or log of events. In addition to helping to complete any required record or reports, it also provides a way to record additional information that would help document the farm's actions to protect the environment.

### Nutrient Management Regulations and Programs Requiring Records

In Arkansas, there are several regulations and governmental cost share programs pertaining to nutrient management that require record keeping. To determine which regulation or regulations pertain in a given situation requires knowledge of the geographic location in which the nutrients are being managed, the source of nutrients, the size of the operation, and whether the records are being kept to satisfy landowner, nutrient applicator, or nutrient plan writer requirements.

It is important to understand that individuals or farming operations may be subject to several regulations. For example, consider the case of a CAFO-sized poultry operation in a designated Nutrient Surplus Area of the state that operates a liquid manure system and had received NRCS EQIP cost share funding. Since it is a poultry operation in a designated nutrient surplus watershed, it would be subject to



ASWCC's Nutrient Surplus Area regulations and Poultry Registration regulations. Since it is a liquid CAFO, it would be subject to ADEQ's Regulation No. 5 and Federally mandated CAFO regulations. Therefore, it would also have to have a liquid CAFO permit from ADEQ. The fact that it had received EQIP cost share funding means that it has had a CNMP developed for the farm and is required to keep the appropriate records. Therefore, the documentation, records, and reports for the farm would need to satisfy all four record keeping requirements.

Fortunately the required records and documentation for all regulations and programs are similar. Summarized below are the minimum record and reporting requirements for the regulations or programs that pertain to nutrient management. Due to the focus on record keeping, the summary below provides minimal information beside the record keeping requirements of the regulations.

### Summary of Various Record Keeping Requirements

#### The Arkansas Soil and Water Conservation Commission Regulations

##### Title 19: Rules Governing The Arkansas Poultry Feeding Operations Registration Program

Between January 1 and March 31 of each year Poultry Operators shall submit to ASWCC or their local Conservation District, on forms available at their Conservation District office, the following information concerning the previous calendar year:

- The number and type of birds housed or maintained by the operation;
- The location of the operation by latitude and longitude, county, township, range, and section;
- The business address of the owner of the facility;
- The address of the facility if different from the owner's business address;
- The type of waste handling system;
- The type of Litter Management System used;

- The type of Litter storage system used and the amount of Litter stored;
- The method used for carcass disposal;
- The acreage owned, controlled, or used by the Poultry Feeding Operation and used for Land Application of Litter;
- Tons of litter produced, removed, transferred or otherwise used by the Poultry Feeding Operation and the type of transfer or usage;
- The Poultry Integrator or Integrators with which the Poultry Feeding Operation has contracted to provide Poultry or Poultry Litter; and
- Any other relevant information deemed necessary by the Commission.

In addition the operation is required to provide the ASWCC or the local Conservation District any changes in mailing address or other contact information within 15 working days of the change. The form for this is also available from their Conservation District office.

**Title 20: Rules Governing The Arkansas Nutrient Management Planner Certification Program**

The certified planner must keep a summary list of all the nutrient management plans they have prepared for each landowner or operator and the dates the plans were prepared or revised. In addition a complete copy of each plan must be kept on file and made available for inspection by ASWCC personnel upon request.

Each quarter the planner must submit a quarterly activity report to ASWCC providing the name and certificate number of the planner and the number of management plans completed.

**Title 21: Rules Governing The Arkansas Nutrient Management Applicator Certification Program**

For each land application of nutrients the applicator is required to record the following information:

- Type and amount of Nutrients applied by field;
- The source or sources of Nutrients applied by field;
- The location of the field or fields where Nutrients were applied;
- The date of application by field;
- The application rate used by field;
- The name and address of the person or business for whom the Nutrients were applied; and
- The cover vegetation by field.

A copy of this information must be provided to the landowner for their records. In addition, the applica-

tor is required to keep the land application record for at least 5 years from the date of the application. The records must be made available to ASWCC personnel for inspection upon request.

**Title 22: Rules Governing The Arkansas Soil Nutrient And Poultry Litter Application And Management Program**

The records and documentation for this regulation can be divided into those that pertain to nutrient applications and to those associated with nutrient and litter management plans. All the records collected to comply with this regulation should be kept a minimum of 5 years. Owners, Operators, and Applicators may rely on the records maintained by commercial fertilizer distributors and applicators to meet these requirements.



The records for each application of nutrients should be sufficient to document that:

- The nutrients were uniformly distributed at rates that do not exceed the protect rates unless a nutrient or poultry litter management plan is available;
- The nutrients were not applied to soil that is saturated, frozen, or covered by snow or ice;
- The nutrients were applied in a manner to prevent excessive amounts of nutrients to be transported into waters of the state or adjacent property.

The contents of a Nutrient Management Plans should normally include the following items:

- General site information
  - o Names, phone numbers, and addresses of the owner/operator(s) of all lands within the Nutrient Management Unit.
  - o Location of site: legal description of all lands in the Nutrient Management Unit, driving instructions from the nearest municipality, street address, and emergency 911 coordinates.

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- o Sketch or aerial photograph of farmstead and all fields in the Nutrient Management Unit.
- o Operation procedures.
- o Existing documentation of present facility components that would aid in evaluating existing conditions.
- Applicable permits and certifications
  - o Federal, State, or local permits or ordinances, if applicable.
  - o Operator or manager certifications, if applicable.
  - o Certification number of Certified Nutrient Planner responsible for developing plan.
  - o Records of inspections or site assessments, if applicable.
- Nutrient Application site information
  - o Date plan prepared.
  - o Written agreements, if any, relating to Nutrient Application.
  - o Aerial maps of Nutrient Application areas.
  - o Individual field maps with marked conservation features, setbacks, buffers, waterways, poultry houses or facilities, surface water features, and environmentally sensitive areas such as sinkholes, wells, gullies, tile inlets, etc.
- o Landowner/operator names, addresses, and phone numbers.
- o Eight-digit watershed codes for nutrient application sites.
- o Specific and unique field identification codes, if applicable.
- o Land use designation, if applicable.
- o Soil map with appropriate interpretations.
- o Calculations, assumptions, interpretations, and narrative description demonstrating appropriate application of the Phosphorus Index in development of the proposed nutrient application rates.
- o Land treatment practices planned and applied and level of treatment they provide.
- Nutrient Application
  - o Crop types, realistic yield targets, and expected nutrient uptake amounts, if available.
  - o Application equipment descriptions and methods of application.
  - o Expected application seasons and estimated days of application per season.
  - o Proposed nutrient application rates; i.e., amounts per acre (volume in gallons or tons per acre, and pounds of plant available nitrogen, phosphorus as P<sub>2</sub>O<sub>5</sub>, and potassium as K<sub>2</sub>O per acre), and detailed information on the calculations, assumptions, and interpretations used to determine application rates.
  - o Estimate of acres needed to apply litter generated on the Nutrient Management Unit or by any related Poultry Feeding Operation, if applicable, consistent with application of the Phosphorus Index and respecting any guidelines published for nitrogen and other nutrient loading limits.
- Actual activity records
  - o Soil tests – not more than 5 years old.
  - o Litter test results.
  - o Planned and applied rates, methods of application, and timing (month and year) of all sources of nutrients applied.
  - o Current and planned crop rotation.
  - o Records of any spill events.
- Operation and Maintenance
  - o Reasonably detailed operation and maintenance procedures and schedules for all aspects of the Nutrient Management Plan including, by way of example, holding systems, litter storage, land application, application equipment, soil and nutrient source sampling techniques, etc.
  - o Description of recordkeeping procedures including records for date and location of each nutrient application, amount of litter or other nutrients applied, phosphorus content of the soil, phosphorus content of litter or other nutrient source, application rates used, source of litter or other nutrients, and total acreage of nutrient applications.
  - o Designation of when periodic review and revision of the plan will occur.





The contents of a Litter Management Plans should normally include the following items:

- General site information
  - o Names, phone numbers, and addresses of the owner/operator(s) of the Poultry Feeding Operation.
  - o Location of Poultry Feeding Operation: legal description of all lands and facilities in the Poultry Feeding Operation, driving instructions from the nearest municipality, street address and emergency 911 coordinates.
  - o Sketch or aerial photograph of Poultry Feeding Operation.
  - o Operation procedures specific to the Poultry Feeding Operation, including an emergency action plan for litter storage and handling.
  - o Any other information requested by the ASWCC.
- Poultry production information
  - o Poultry types, phases of production, and length of confinement for each type.
  - o Animal count and average weight.
  - o Calculated litter volumes.
  - o Litter storage type, volume, and approximate time period of storage.
- Applicable permits and certifications
  - o Federal, State, or local permits or ordinances, if applicable.
  - o Operator or manager certifications, if applicable.
  - o Certification number of Certified Nutrient Planner responsible for developing Poultry Litter Management Plan.
  - o Records of inspections or site assessments, if applicable.
- Land Application site information
  - o Date plan prepared.
  - o Written agreements, if any, relating to litter transfers and Land Application.
  - o Aerial maps of land application areas.
  - o Individual field maps with marked conservation features, setbacks, buffers, waterways, poultry houses or facilities, surface water features, and environmentally sensitive areas such as sinkholes, wells, gullies, tile inlets, etc.
  - o Landowner/operator names, addresses, and phone numbers.
  - o Eight-digit watershed codes for the land application sites.
  - o Specific and unique field identification codes, if applicable.
  - o Land use designation, if applicable.
  - o Soil map with appropriate interpretations.
  - o Calculations, assumptions, interpretations, topographic maps, and narrative description demonstrating appropriate application of the Phosphorus Index in development of the proposed land application rates.
  - o Land treatment practices planned and applied and level of treatment they provide.
- Land Application
  - o Crop types.
  - o Application equipment descriptions and methods of application.
  - o Expected application seasons and estimated days of application per season.
  - o Proposed Land Application rates; i.e., amounts per acre (volume in gallons or tons per acre, and pounds of plant available nitrogen, phosphorus as P<sub>2</sub>O<sub>5</sub>, and potassium as K<sub>2</sub>O per acre), and detailed information on the calculations, assumptions, and interpretations used to determine application rates.
  - o Estimate of acres needed to apply litter generated by the Poultry Feeding Operation, consistent with application of the Phosphorus Index and respecting any guidelines published for nitrogen and other nutrient loading limits.
- Actual activity records
  - o Soil tests – not more than 5 years old.
  - o Litter test results.
  - o Planned and applied rates, methods of application, and timing (month and year) of all sources of nutrients applied.
  - o Current and planned crop rotation.
  - o Actual crop yield and harvest from land application sites.

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- o Records of internal inspections for litter storage, handling, and application system components.
- o Records of any spill events.
- o Records of all land applications, both within and outside of Nutrient Surplus Areas.
- o For any litter not land applied, records demonstrating that the litter was converted to a non-nutrient use or other use acceptable to the ASWCC.
- Mortality disposal
  - o Plan for mortality disposal including approved site for catastrophic die-off.
  - o Methods and equipment used to implement the disposal plan, including any applicable permits.
- Operation and Maintenance
  - o Reasonably detailed operation and maintenance procedures and schedules for all aspects of the Poultry Litter Management Plan including, by way of example, litter storage and handling systems, land application, application equipment, soil and litter sampling techniques, etc.
  - o Description of record keeping procedures including records for date and location of each land application, amount of litter or other nutrients applied, phosphorus content of the soil, phosphorus content of litter or other nutrient source, application rates used, source of litter or other nutrients, and total acreage of land applications.
  - o Designation of the annual growing period that will be used for purpose of periodic review and revision of the Plan.

However, in most cases, an Individual State Permit will have conditions and requirements very similar to a State General Permit.

- A State General Permit is available for facilities that do not satisfy the criteria for CAFO classification but still wish to be covered by a general permit. The State General Permit contains conditions and requirements similar to those contained in the NPDES General Permit but is issued under State authority.
- The NPDES General Permit is a federal permit required for all concentrated animal feeding operations (CAFOs). A CAFO is an animal feeding operation that exceeds 700 mature dairy cows; 1,000 beef cattle or heifers; 1,000 veal calves; 2,500 swine (each 55 pounds or more); 10,000 swine (each under 55 pounds); 30,000 chickens (liquid manure handling systems); 125,000 chickens except laying hens (other than liquid manure handling systems); 82,000 laying hens (other than liquid manure handling systems); 55,000 turkeys; 5,000 ducks (liquid manure handling systems); 30,000 ducks (other than liquid manure handling systems); 500 horses; or 10,000 sheep or lambs on the farm at any point in time.

### The Arkansas Department of Environmental Quality Regulations

#### Regulation No. 5: Liquid Animal Waste Management Systems

Regulation 5 requires all confined animal operations, regardless of size, that utilize a liquid waste management system to obtain a permit. ADEQ issues three types of permit for confined animal operations with liquid waste systems.

- An Individual State Permit, or Regulation No. 5 Permit, is issued for facilities that do not satisfy the criteria for CAFO classification and do not wish to be covered by the State General Permit. An Individual State Permit will contain conditions and requirements specific to each facility.



The requirements for system design and operation are the similar for all three types of permits. The regulation requires the implementation of a Waste Management Plan which meets NRCS standards. In general a Waste Management Plan will be very similar to ASWCC's Litter Management Plan. However, there are some differences in the record keeping requirements. Below is a summary of how to identify the type of permit and the record keeping requirements for each type of permit. The exact requirements are specified in the text of the permits.

State Individual Permit Requirements

These permit numbers start with four numbers followed by “-W”. If the permit has ever been revised, there will be an “R-” followed by a number to indicate the number of revisions. The general format is #####-WR-#.

- Record keeping requirements
  - o Manure application records
    - Application log with date, volume, where spread, area covered
    - Kept at facility
  - o Representative analysis of manure applied
    - At least one sample per year in accordance to Extension guidelines
    - Analyzed for pH, total nitrogen, ammonium, potassium, phosphorous, and percent solids
  - o Soil sampling of manure application sites
    - Annual soil test performed in accordance to Extension guidelines
    - Sampled prior to the application of manure
    - Analyzed for pH, potassium, phosphorous, and nitrates
  - o Annual reports for previous calendar year.
    - Due by May 30
    - Must use ADEQ forms
    - Must include
      - o Manure analysis results
      - o Soil test results
      - o Locations, volumes, and nitrogen application rates
      - o Method of manure application and types of crops for each application site

- The dates and times of the discharge
- If the discharge is still occurring, the steps being taken to stop the discharge and the time required to do so
- If the discharge was the result of a precipitation event(s), the size of the event(s) as measured by an on-site rain gauge or local weather station must be included



NPDES General Permit Requirements

These permits start with “ARG” followed by six numbers. If the permit has ever been revised, there will be a “-” followed by a number to indicate the number of revisions. The general format is ARG#####-#.

- Routine Record Keeping Requirements
  - o The same as Individual State Permit
  - o Additional requirements
    - EPA CAFO regulations require Pollution Prevention Plans. Farms that are permitted under an NPDES General Permit have to meet the requirements of a Pollution Prevention Plan. However, Arkansas permitting requirements address most of the required elements of a Pollution Prevention Plan. The additional requirements are listed below.
    - Inspection of the manure handling and storage system at least 4 times each year.
    - Records should include dates and a log of findings.
    - A schedule and procedure for dewatering the manure storage units. A log must be kept to record the weekly water level.
    - A permanent marker that is visible from bank shall be maintained. The marker must be able to indicate the required 25-year 24-hour storage and 12 inch free-board volumes.

State General Permit Requirements

These permits start with four numbers followed by “-WG-A W”. If the permit has ever been revised, there will be a “-” followed by a number to indicate the number of revisions. The general format is #####-WG-A W-#.

- Routine record keeping requirements
  - o The same as Individual State Permit
- Non-routine (discharge) reports.
  - If for any reason there is a discharge, the permittee is required to visually monitor and report the discharge to ADEQ.
    - o Initial report within 24 hours of discharge
    - o Written report within 5 days of the discharge
    - o The report must include the following items
      - The cause of the discharge
      - An estimate flow rate
      - An estimate of discharge volume

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- Where a liner is installed it must be maintained by provisions like fences to prevent animal damage and the prevention of tree growth within potential distance of the root zone. Any damage must be inspected by NRCS, Professional Engineer, or qualified groundwater scientist within 30 days of the damage. All documentation on inspection and maintenance shall be kept at the facility.
  - A schedule of inspection and preventative maintenance shall be developed and implemented. A maintenance log that documents the inspection and maintenance shall be kept at the facility.
  - Employees must be regularly trained in the proper operation and maintenance of the facility and manure handling system. The permittee is responsible for determining the appropriate training frequency based on employee activity and schedule the training. This training is in addition to the annual training meetings required by Regulation No. 5.
  - At least once a year a complete inspection of the facility shall be conducted and a report made documenting the findings.
  - All records and documents should be kept at the facility for at least three years
- Non-routine (Discharge) Reports

If for any reason there is a discharge, the permittee is required to visually monitor and report the discharge to ADEQ.

    - o Initial report within 24 hours of discharge
    - o Written report within 14 days of the discharge.

- o The report must include the following items.
  - The cause of the discharge
  - An estimate flow rate
  - An estimate of discharge volume
  - The dates and times of the discharge
  - If the discharge is still occurring, the steps being taken to stop the discharge and the time required to do so.
  - If the discharge was the result of a precipitation event(s), the size of the event(s) as measured by an on-site rain gauge must be included
  - An analysis of the discharge unless otherwise directed by ADEQ.
    - o A grab sample of the discharge shall be collected within 30 minutes of the start of the discharge. If dangerous or other conditions prohibit collecting the sample within 30 minutes, the report must contain an explanation. The sample must then be collected as soon as possible. The sample must be analyzed in accordance to EP A standards.
    - o The sample analysis must include Fecal Coliform Bacteria, 5-day Biochemical Oxygen Demand, Total suspended Solids, Ammonia Nitrogen, and any pesticide or waste the operator has reason to believe could be in the discharge.

### **Regulation No. 6: Regulations For State Administration Of The National Pollutant Discharge Elimination System (NPDES)**

#### Federal General CAFO Permit Requirements

Regulation 6 pertains to all confined animal operations that use a dry manure handling system with a housing capacity of at least 1,000 slaughter or feeder cattle; 700 mature dairy cattle (whether milked or dry cows); 2,500 swine each weighing 55 pounds or more; 10,000 swine weighing less than 55 pounds; 500 horses; 10,000 sheep or lambs; 55,000 turkeys; 125,000 chickens (other than laying hens); 82,000 laying hens, as required by EPA's NPDES program. The regulation requires the implementation of a Waste Management Plan which meets NRCS standards and ASWCC regulations. In general a Waste Management Plan will be very similar to ASWCC's Litter Management Plan. ADEQ requires that all records kept on farm for at least 5 years.

Each time dry manure is land applied, the records should be kept in sufficient detail to determine application rates. To do this a log should be kept of



all land applied waste, which will include the date, weight and/or volume, and destination and acreage over which the load was spread. Records shall include calculations showing the total amount of nitrogen and phosphorus actually applied to each field.

In addition manure and soil samples are to be collected and analyzed at least once a year. The manure analysis results should include pH, Total Nitrogen, Total Phosphorus, Total Potassium, and Percent Solids. The soil sample results should include pH, Phosphorus, Potassium, and Nitrogen.



### USDA, Natural Resources Conservation Service

#### EQIP Participation Requirements

While the Natural Resources Conservation Service is not a regulatory agency they do administer the Environmental Quality Incentives Program (EQIP) which is a cost sharing program that does have some participation requirements. One of these requires animal feeding operations to implement a Comprehensive Nutrient Management Plan (CNMP). These plans include several components in addition to a Nutrient Management Plan and also include provisions for record keeping.

#### CNMP Record Keeping Components

To document the implementation and management of CNMPs, the landowner should keep a set of records that include:

- Manure nutrient test results.
- Soil test results.
- Application records for each manure or commercial fertilizer application:
  - o Source and/or type of Manure or commercial fertilizer,
  - o Application sites,
  - o Application rate per acre,
  - o Time and date of application,
  - o Weather conditions during application,
  - o Soil moisture at time of application such as saturated, wet, moist, dry, and
  - o Application method.
- Crop information such a planting and harvest dates.
- Manure and wastewater storage records:
  - o Pumping/cleanout dates, level before after pumping/cleanout,
  - o Any discharge or overflow events, including level before and after event.
- Sale or movement of manure off-site:
  - o Nutrient content,
  - o Amount of manure,
  - o Transfer date, and
  - o Information on manure recipient.
- Actions related to the emergency spill response plan.
- Records of CNMP review by NRCS, consultants, or regulatory agencies:
  - o The date of the review,
  - o The purpose of the review and who preformed it,
  - o Reviewer recommendations and/or requirements, and
  - o Any actions taken to respond to the review.
- Equipment and facility maintenance records.
- Documentation of equipment calibration.
- Documentation of CNMP revisions.



### References

Title 19: Rules Governing The Arkansas Poultry Feeding Operations Registration Program. 2004. Arkansas Soil and Water Conservation Commission.

Title 20: Rules Governing The Arkansas Nutrient Management Planner Certification Program. 2004. Arkansas Soil and Water Conservation Commission.

Title 21: Rules Governing The Arkansas Nutrient Management Applicator Certification Program. 2004. Arkansas Soil and Water Conservation Commission.

Title 22: Rules Governing The Arkansas Soil Nutrient And Poultry Litter Application And Management Program. 2004. Arkansas Soil and Water Conservation Commission.

Application Procedures For A No-Discharge Water Pollution Control Permit Confined Animal Facilities With Liquid Waste Management Systems. 2003. Arkansas Department of Environmental Quality.

Regulation No. 5: Liquid Animal Waste Management Systems. 2000. Arkansas Department of Environmental Quality.

Regulation No. 6: Regulations For State Administration Of The National Pollutant Discharge Elimination System (NPDES)

Draft Permit ARG590000 for Operators of Concentrated Animal Feeding Operations (CAFO) that Use a Dry Manure Handling System Located in the State of Arkansas. 7/22/2004. Arkansas Department of Environmental Quality.