UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
_____ , OKLAHOMA

OPERATION AND MAINTENANCE PLAN
DRY LITTER STORAGE FACILITY

Sponsor/Land user: _____ Date: _____

Address: _____

_____

Legal description of practice location: SEC _____ T _____ R _____

A properly operated and maintained combination dry litter storage facility is an asset to your farm. The waste storage facility was designed and installed for temporary storage of dry poultry litter waste. The estimated life span of this installation is at least 15 years. The life of this facility can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

OPERATION OF WASTE STORAGE STRUCTURE

The waste management system for your operation includes the litter storage facility planned and designed by NRCS to provide temporary storage of a mixture of manure, bedding and wasted feed typically referred to as litter. The system is planned to manage waste generated by the poultry feeding operation in a manner that prevents or minimizes degradation of soil, water, air, plant, and animal resources and protects public health and safety. It is also planned to preclude discharge of pollutants to surface water from a 25-year, 24-hour storm event, to minimize ground water contamination, and to recycle the waste produced through soil and crops to the fullest extent possible.

The birds are housed inside poultry houses on earthen floor. A layer of bedding covers the soil to provide insulation and cushion. Manure is deposited on the bedding and mixed in with the bedding due to natural movement of the birds. Ventilation in warm weather and heating during cold weather assist in drying of the litter to moisture content less than 35% which is considered dry waste.

The litter storage structure is designed to accommodate litter storage for poultry litter cake removal between flocks. The structure is designed to handle litter from _____ broilers with a market weight of __ pounds. The feeding period for each flock is ___ days with approximately 14 days between flocks for cake out of litter and poultry housing maintenance. The maximum anticipated storage period would not exceed 120 days.

The stored litter is land applied to crop or pasture land as specified in the Comprehensive Nutrient Management Plan (CNMP) when possible during the growing season. The litter cake

out removal will be stored in the litter storage structure when the designated spreading fields are dormant, frozen or saturated and land application is not permissible.

All poultry waste will be utilized following the guidelines in the CNMP. It is recommended that waste nutrient testing of any litter stored be tested for nutrient content prior to land application. Loss of nutrients during storage can result. Litter test from the production areas may not be accurate depending on the length of the litter storage period.

Stored litter and even dead animal compost can catch fire if not properly maintained. Fires can develop in stacked poultry litter through spontaneous combustion. Special precautions should be taken to prevent this from happening. In order to reduce the potential for fires in litter storage structures the following is recommended:

1. Pile height should not exceed 7 feet in the middle of the structure. Storing the material in separate small windrows reduces the cross sectional area and is the safest option for stacking.

2. KEEP THE LITTER DRY! Do not wet the litter in the hope of preventing a fire; just the opposite may occur. In addition, protect the litter from blowing rain.

3. Avoid placing the wet material in contact with dry material. Do not layer new litter on top of old, and do not let dead poultry compost come into contact with stored litter.

4. Do not compact the material by driving over it or packing it with equipment.

5. If litter is stored against wooden walls, limit the litter height to 4 feet.

6. Monitor temperatures at different points in the pile frequently. If temperatures exceed 190°F, or if the material is smoldering, prepare to remove material from the building. This includes notifying the local fire department to be on hand. A smoldering pile could burst into flames if exposed to air. A garden hose could be inadequate to extinguish the fire.

7. Do not store equipment, vehicles, hay or anything other than poultry litter in the litter storage structure. In the event of a litter fire these objects could add fuel to the fire which may lead to a total loss of the facility and the objects stored in the facility.

GENERAL MAINTENACE RECOMMENDATIONS

- The building should be thoroughly inspected at least twice a year when empty.
- Any wooden parts, hardware, or other replaceable parts that are damaged or show excessive wear or decay should be replaced.
- Do not allow the operation of any equipment that exceeds the design load limit on or within twenty feet of the structure.
- All disturbed areas around the structure, including spoil or borrow areas, should be vegetated or covered with gravel to prevent erosion.
- Maintain all electrical and mechanical equipment, if applicable, in good operating condition by following the manufacturer's recommendations.
- Maintain grounding rods and wiring for all electrical equipment in good condition.
- All fences, railings, and/or warning signs shall be maintained to prevent unauthorized human or livestock entry.

- Immediately repair any vandalism, vehicular or livestock damage to the structure, earthen areas surrounding the structure, or any appurtenances.
- Follow the schedule developed for emptying the structure.
- Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their activity.
- Repair spalls, cracks and weathered areas in concrete surfaces.
- Repair or replace rusted or damaged metal and paint.
- Repair or replace rotted or damaged lumber and posts.
- Apply insecticides for insect control as per manufacturer's recommendations and precautions, as needed and according to the Pest Management Plan.
- Operate system in a manner to minimize odors and air drift.
- Utilization or disposal of the stored poultry litter will be according to the current nutrient management plan for your facility.

Additional information on composting and poultry waste management is available at the following link: http://poultrywaste.okstate.edu/

SPECIFIC RECOMMENDATIONS FOR YOUR INSTALLATION

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR STRUCTURE.

NRCS, OK
November, 2014