

NATURAL RESOURCES CONSERVATION SERVICE
WEST VIRGINIA
OPERATION AND MAINTENANCE REQUIREMENTS
EMERGENCY ANIMAL MORTALITY MANAGEMENT
CODE 368

Landowner/Operator _____
County _____ CD _____ Farm/Tract No. _____
Prepared By _____ Date _____

A properly installed and maintained channel bed stabilization practice can be an asset to the farm. The project was installed to manage the catastrophic mortality of agricultural operations producing animal commodities. The estimated life span of this installation is at least 1 year. The life of the practice can be assured and usually increased by developing and carrying out a systematic operation and maintenance program.

This practice requires periodic O&M to properly manage and keep the system in good repair. Items for consideration are:

- Contact(s) and phone numbers of person(s) to contact for catastrophic losses (Table 1 attached).
- Dispose of normal animal mortality losses as quickly as possible.
- Safety considerations. Fence off areas as needed. Install safety signage as needed/recommended.
- Periodic inspections of mortality facility, disposal site, and appurtenant structures; as appropriate. Inspect at least twice (at 3 and 6 months). Promptly repair or replace damaged components as appropriate.
- Refer to the manufacturer or installer for trouble shooting mechanical equipment as appropriate.
- **Biosecurity.** Protect the facility from scavengers. Properly covered carcass will limit odor, however you may install fence as needed. Limit access to carcass and compost. Clean and disinfect equipment prior to use on other areas of the operation/ farm. Check with the State Veterinarian prior to disposal in cases of highly infectious diseases.

Additional O&M for Burial Sites

- Identify onsite locations for emergency animal mortality management activities and disposal sites as appropriate. Maintain recordkeeping of number, average weight, cause, and date of animal deaths. Method and procedures of catastrophic mortality disposal. Refer to the manufacturer or installer for trouble shooting mechanical equipment as appropriate.

Additional O&M for Incinerators and Gasifiers

- Operate the unit properly to maximize equipment life and minimize emission problems. Use the incinerator and gasifier only for the disposal of animal carcasses. Load the unit according to the

manufacturer's recommendations.

- Remove ashes frequently to maximize combustion and prevent damage to equipment. Remove ashes as per manufacturer's recommendations. Ashes may be disposed of in the same manner as animal waste.
- Inspect the unit periodically to ensure that all components are operating as planned and in accordance with the manufacturer's recommendations.

Additional O&M for Refrigeration units

- Operate the refrigeration unit properly to maximize equipment life and minimize potential problems.
- Load the refrigeration unit according to manufacturer's recommendations and do not exceed the design capacity.
- Use the refrigeration unit only for the dead animals associated with the planned operation. Do Not store feed, chemicals, or any other products used or produced on the farm in the refrigeration unit. Doing so may contaminate the item stored.
- Inspect the refrigeration unit periodically for leaks, structural integrity, and temperature. Promptly repair or replace damaged components as needed.

Additional O&M for Composters

- Equipment that will be readily available for pickup and disposal includes:
_____.
- Locate, as soon as practical, a source for carbonaceous material sufficient to provide for the catastrophic event. The nearest supplier of woodchips/sawdust is: _____.
- Become familiar with composting methods and procedures as soon as practical.
- **Compost Recipe - Poultry.**

Recipe of Material Proportions for Poultry Composting

MATERIAL	PARTS BY WEIGHT
Litter	3 to 4
Carbon amendment*	0.2 to 0.4
Mortalities	1
Water	0.5 to 1

*chopped hay, straw or sawdust

1. Place carcasses on a bed of one foot of dry manure on the concrete floor to absorb the excess moisture that is added. This manure weight is not part of the recipe.
2. Place six inches of loose carbon material on top of the manure layer to allow aeration under the carcasses.

3. Add a layer of carcasses. Do not mound the birds. Use a rake to spread the birds in a single layer. Keep birds at least 6 in. away from the walls so the carcasses are not exposed.
 4. Add water to each layer of carcasses. Add water only when needed to ensure the mixture is damp. The mixture should be about as moist as a damp sponge. Proper water content is important to success. Less water may be needed as the birds approach maturity. **DO NOT ADD TOO MUCH WATER.**
 5. Place a layer of manure over the carcasses according to the recipe. The manure must completely cover the chickens. This completes the first batch.
 6. The second and each subsequent batch continues by repeating steps b through e above until the bin is full.
 7. When the last layer of chickens is added to a bin, cap the pile with an extra layer of manure. The extra layer will insulate the pile and will also help prevent scavenging animals from digging into the top.
- **Compost Recipe - Other.**

Recipes can be tabulated from the calculator provided by Cornell University at: <http://compost.css.cornell.edu/download.html> or by Michigan State University at: http://msue.anr.msu.edu/program/managing_animal_mortalities/composting_tools
 - **Carbon-Nitrogen Ratio.** Maintain a compost mix that result in a carbon-to-nitrogen (C:N) ratio between 25:1 and 40:1. Compost with a lesser C:N ratio can be used if nitrogen mobilization is not a concern.
 - **Carbon Source.** Store a dependable source of carbonaceous material with a high C: N ratio to mix with nitrogen-rich waste materials. Typical sources are wood chips or sawdust; refer to the design package. If another source is used double check the mix ratio needed to suite the desired recipe. Larger volumes of carbonaceous material may be needed depending on the type of source used.
 - **Bulking Materials.** Add bulking materials to the mix as necessary to enhance aeration. The bulking material may be the carbonaceous material used in the mix or a nonbiodegradable material that is salvaged at the end of the compost period. Make provision for the salvage of any nonbiodegradable material used in the composting process.
 - **Compost Mix.** Reference the NEH – Part 637, Chapter 2 Composting, and the NRAES 54, “On-Farm Composting Handbook.” Develop a compost mix that encourages aerobic microbial decomposition and avoids nuisance odors. This is a trial and error process to achieve the right balance of materials.
 - **Moisture Level.** Maintain adequate moisture in the compost mix throughout the compost period within the range of 40 to 65 percent (wet basis). Prevent excess moisture from accumulating in the compost in high precipitation climatic regions. This may require the facility to be covered. This facility ___ is ___ is not roofed.
 - **Temperature of Compost Mix.** Closely monitor temperatures above 165°F. Take action immediately to cool piles that have reached temperatures above 185°F. If the pile is too hot, turn it to aerate the

pile and release heat build-up. Equipment that will be available for turning includes:

- **Turning/Aeration.** The frequency of turning/aeration shall be appropriate for the composting method used, and to attain the desired amount of moisture removal and temperature control while maintaining aerobic degradation. At a minimum turn/aerate the compost every ____ days.
- **Monitoring.** Composting is a biological process that needs monitoring and management throughout the composting period to insure proper composting processes. The operation may need to undergo some trial and error in the start-up of a new mortality composting facility. Manage the compost piles for temperature, odors, moisture, and oxygen, as appropriate. Test the finished compost as appropriate to assure that the required decomposition has been reached. Include the method, procedure, and record -keeping requirements for proper utilization of compost.
- **Rotary Drum Composters** are not suited for handling catastrophic events and are prohibited for use in this practice.

Table 1
EMERGENCY MORTALITY RESPONSE
Emergency Contacts and Farm Information

Plan Date:	
Farm Name:	
Owner/Operator:	
County:	
Physical Address of Facility:	
Directions to Facility:	
Emergency Contacts	
Local Veterinarian:	
On-Call Veterinarian:	
Integrator	
Other:	
Local Emergency Number:	
List of Agencies to notify within 24 hours	
State Animal Health Agency:	
State Veterinarian:	
Federal Area Veterinarian in Charge:	
Heavy Equipment Contractor	
for handling carcasses:	
for excavating burial pits:	
Composting Material Supplier:	
Incinerator:	
Landfill:	
Rendering Facility:	
Other (specify):	