

Types of Emergencies

Your response to emergency situations will be governed by site- and situation-specific circumstance, which your own emergency action plan should address. However, you should consider certain responses based on the type of emergency you are experiencing. These responses can be grouped by the type of emergency:

1. Imminent pollution or emergency
2. Pollution in progress
3. Pollution discovered after the fact

The following instructions pertaining to these three types of emergencies should be available to all employees at a facility because accidents, leaks, and breaks can happen at any time.

Imminent Pollution or Emergency

In this situation, no leaks or spills have yet occurred. If ignored, however, this emergency will probably result in a spill or leak within a short time. This type of emergency generally happens when lagoons, holding ponds, or pits are nearing capacity or when wastes can potentially run off an application field.

Storage capacity about to be exceeded. Long periods of excessive rain or malfunctioning livestock water systems may cause your storage to unexpectedly reach capacity. In response, you must attempt to prevent the release of wastes. While this may not be possible depending on your situation, suggested responses are as follows:

- Add soil to the berm, increasing the dam's elevation.
- Begin a planned emergency utilization of manure by pumping it onto fields at acceptable rates.
- Stop all additional flow (waterers, flushing system, etc.) to the storage.
- Call a pumping contractor.
- Prevent any surface water from entering the storage.
- Consider maintaining some grassland near the storage for emergency manure application.

These activities should be initiated when your lagoon has exceeded its temporary storage level. For more information, see the lagoon sizing section of Lesson 21, *Sizing Manure Storages, Typical Nutrient Characteristics*.

Potential runoff from the application field. This situation could result from unexpected rains during the field application of manure. Again, you must attempt to prevent the release of wastes to neighboring areas. Possible solutions are as follows:

- Immediately stop additional waste application.
- Contain the waste on the field by creating a temporary diversion or berm.
- Prevent further runoff by incorporating the waste.

Hurricanes and tropical storms. These severe storms are unpredictable, and depending on their intensity, can cause a great deal of damage to an area. The storms, which may occur from June 1 to November 30, can produce tornadoes and cause severe flash flooding. Hurricanes and tropical storms also can deliver large amounts of rainfall in very short periods of time. In areas prone to these storms, producers should prepare for their possibility

months in advance. Before the hurricane season begins, temporary storage levels in lagoons and storage basins should be as low as possible. Be prepared for multiple storms. In September 1999, many producers in the coastal regions of North Carolina, South Carolina, and Virginia received over 30 inches of rainfall from two hurricanes and one tropical storm.

Regardless of their size, hurricanes should be respected. Be aware of the following two types of notices that the National Hurricane Center issues:

1. A *hurricane watch* is issued when there is a threat of hurricane conditions within 24 to 36 hours.
2. *Hurricane warnings* are issued when hurricane conditions (winds of 74 miles per hour or greater) or dangerously high water and rough seas are expected in 24 hours or less.

Seasonal heavy rainfall. From year to year, areas of the country may receive periods of high rainfall that are atypical of long-term averages. The wet periods may delay crop planting and thus manure removal from storage facilities, which then exceed their designed storage capacity. In this situation, discuss your options for manure removal with your comprehensive nutrient management planner, technical specialist, and design engineer.

Flooding. Several floods in Midwestern and Eastern states have shown the vulnerability of animal facilities located in or near floodplains. Before the floodwaters begin to rise, consider the following questions:

- Will the farm be isolated because the roads will become flooded?
- How many days of protected feed are on the farm?
- How will animals be evacuated from the farm?
- How will animal mortalities be managed? If burial is the preferred option, is an upland site dedicated to that purpose?
- Which of the following items are at a higher risk of flooding—buildings, manure storage, feed storage, or mortality disposal sites?

Catastrophic animal loss. One of the most devastating emergencies on a farm is the catastrophic loss of animals. Floods, tornadoes, power loss, and manure gas buildup in buildings can all result in significant loss of animals. Lesson 52, *Mortality Management*, discusses the catastrophic loss of animals in more detail. When developing your emergency action plan, consider the following questions:

- What is your greatest risk for catastrophic animal losses?
- How will animal be removed from production houses?
- What disposal options do you have?
- Does your state veterinarian have to approve the disposal method?
- Has an appropriate site been set aside for buying animals?

Pollution in Progress

In this situation, the storage or waste handling system is actively leaking. Your main goals are to stop the flow and minimize the leak's impact on the environment.

Leaking or broken pipe, pit wall, or lagoon berm. These leaks may be seepage or flowing wastes. Your response will depend on the impact of the leaking waste (is it on your property or off?). Possible solutions are as follows:

- Stop the flow into the pipe, pit, or lagoon.
- Prevent the additional leaking of material by turning off the recycle

flushing system and irrigation pumps; closing valves controlling outflows; and preventing a siphon effect.

- Dig a holding area or construct a berm to contain waste waters.
- Repair defective components such as berm leaks caused by animals; trap or remove animals and fill holes with compacted clay soil.

To permanently repair lagoon problems, you may need to consult an individual experienced in lagoon design and installation.

Tank spreader leak or overturn. Most likely, this emergency will occur off your property and may include personal injuries (e.g., car accident). As in any animal waste emergency, human injuries take precedence over all other responses. Once the injury is handled, limiting the environmental impact of this emergency becomes the main goal. Possible solutions are as follows:

- Stop the additional spill of material.
- Contain the material that has spilled.
- Begin clean-up procedures.
- Notify the appropriate agencies, informing them if the waste is on or off your property or if there is surface or groundwater impact.

Pollution discovered after the fact

This situation occurs when as many as several days have passed before a leak is discovered. Because the discovery was delayed, its environmental impact may potentially be increased. Thus, response should be swift to minimize the damage as much as possible. Responses should be as follows:

- Stop additional leakage.
- Contain spilled wastes.
- Attempt to apply spilled wastes on cropland.
- Notify agencies and local authorities.
- Assess the environmental impact of fish kills, surface water pollution, well water or groundwater impact, and amount of waste released and for what duration.