Pesticide Emergencies: Contingency Planning[1]

Frederick M. Fishel[2]

The purpose of contingency planning is to prevent an emergency situation from becoming a catastrophic event. This document provides insight on how to develop a contingency plan for addressing emergencies where pesticides are involved.

Introduction

An emergency response plan can help protect the health and welfare of employees and the community, minimize environmental damage, and potentially reduce liability in the event of an accident. The importance of planning for emergencies cannot be overemphasized. Undertake this planning with painstaking attention.

Some emergencies require professional assistance (police, firefighters, paramedics, environmental contractors) while others may be handled by properly trained company employees. Personal injuries may range from minor cuts, treatable with a first-aid kit, to major injuries from exposure to toxic chemicals, which may require hospitalization.

Small fires often can be extinguished with a portable fire extinguisher, while larger ones require trained firefighters and possibly emergency medical assistance.

Some spills can be controlled and contained and the area cleaned, using spill kits kept on-site. It is important that all employees know exactly where spill kits, fire extinguishers, and first-aid kits are stored.

A large, uncontained spill from a ruptured thousand-gallon pesticide tank would likely require a trained hazardous materials response team to control the release, evacuate the area, coordinate remedial measures, contain the spill, clean and decontaminate the site and dispose of contaminated waste.

Objectives of Contingency Planning

The objective of contingency planning is to prevent emergencies; but if they do occur, the objective becomes a matter of reacting appropriately to minimize detrimental effects. Both aspects—prevention and reaction—require a well-organized effort on the part of business owners and management personnel.

A contingency plan is only as good as the information it conveys to employees and emergency responders. It is useless if the only people who comprehend its intent and execution are those who wrote it. Employees must be educated to understand the purpose of the plan, and they must be trained to perform their assigned duties in an emergency situation, including knowing where to station employees at critical intersections to direct response vehicles.

It is essential that every employee and all emergency responders in the community be familiar with the plan. And it is equally important that the plan be updated on a regular basis to incorporate changes: phone numbers, new employees, new (company) emergency responders, new or reassigned position responsibilities, etc. A thorough review

1. This document is PI257, one of a series of the Agronomy Department, UF/IFAS Extension. Original publication date December 2015. Reviewed September 2018. Visit the EDIS website at http://edis.ifas.ufl.edu.

2. Frederick M. Fishel, professor, Agronomy Department, and director, Pesticide Information Office; UF/IFAS Extension, Gainesville, FL 32611.

should be done at least annually, as should employee review and retraining.

Developing the Plan

Consider the following when developing a written emergency response plan:

- Post a 24-hour number on the outside of all buildings so that emergency responders will know where to call if an emergency occurs when the business is closed and the premises vacant. Contacts should include
  - persons/agencies required to be notified by local, state, and federal requirements;
  - local emergency planning committees;
  - police and fire units;
  - paramedics and area hospitals;
  - appropriate chemical manufacturers and dealers;
  - containment and hazardous waste cleanup contractors;
  - your attorney, to protect your rights and the rights of others;
  - the Florida Department of Agriculture and Consumer Services.
- Train all employees and document all training on
  - the location of the written emergency response plan;
  - the purpose and objectives of the plan;
  - implementing the plan;
  - who to contact in an emergency;
  - where to rendezvous following evacuation;
  - who should deal with and talk to the media;
  - who to notify if there is a failure in the plan.
- Prepare a map of your facility to include with your emergency response plan (Table 3). Show a layout of all chemical storage buildings and bulk storage tanks, access roads, main shutoffs for electricity, water, and gas, perimeter fencing that could hinder access to the pesticide storage facility, the location of fire alarms, firefighting equipment, protective clothing, and drainage easements on the site. Provide emergency response agencies an updated copy of this map whenever changes are made at the facility (Figure 1).
- Keep an inventory of emergency equipment and supplies you have available on site, including
  - the location and inventory of fire extinguishers and protective equipment;
  - equipment that can be used for diking, trenching, pumping, and vacuuming;
  - containment and cleanup materials, such as absorbent materials and neutralizing agents;
  - any specialized equipment, such as a self-contained breathing apparatus;
  - spill kits and their locations;
  - plugging materials and drain covers.

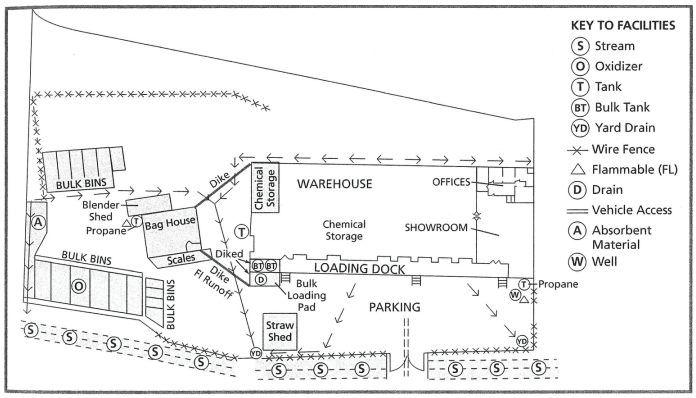

Figure 1. Example of a facility map.
Credits: National Pesticide Applicator Certification Core Manual

- Personally deliver copies of the emergency response plan to local responders: fire departments, law enforcement agencies, emergency medical services, and emergency planning committees. Review the following with them:
  - who at the facility to contact in an emergency;
  - where employees are to rendezvous if evacuated;
  - types of chemicals stored on-site;
  - precise locations of chemical storage areas;
  - important listings on the site map;
  - what you and your staff should and should not do in an emergency;
  - what expectations you have; for example, a let-it-burn policy when outside assistance is requested;
  - the on-site location of the written plan; that is, where emergency responders can access it;
  - off-site locations where the plan is accessible.
- Invite emergency responders to walk through your facility. Consider incorporating videos and photographs with the written plan and ask for suggestions to make the plan better; follow up on any recommendations they offer.
- Update the emergency response plan annually and as changes occur.
- Stage a mock accident or spill annually and critique the generated response.

- Contact hospitals to see if they can treat patients for exposure to the chemicals you handle, and ask if they have decontamination capabilities. Hospitals are often overlooked when notifying local responders.
- Spill recovery contractors play an essential role in follow-up operations related to a spill emergency. Select a reputable firm that you are comfortable with.
- Consider filling out the sample forms and maps in Tables 1–8 to record the necessary information for developing an emergency response plan of your own.

Conclusion

To prepare for a pesticide emergency or incident, have a well-thought-out emergency response plan. Make sure the plan includes designating an emergency response coordinator, maintaining a list of emergency response agencies, preparing a map of the facility, keeping a current product inventory of the types and quantities of stored chemicals, knowing what emergency equipment and supplies are available, and what staff is necessary and trained to operate the equipment. Be sure all employees at the facility are familiar with the emergency response plan and know the sequence of actions to take in a crisis. Maintain regular training for all employees expected to help in an emergency situation.

Table 1. Sample form for keeping facility information current.

Name of Facility		
Telephone (main)	Telephone (24 hour)	Fax
Geographical Site Address Street/Road/Highway		
County	Latitude	Longitude
Mailing Address		
Street or P.O. Box		
City	State	Zip
Management Personnel		
Name		
Title		
Telephone (Work) (Cell phone)	(Home) (Pager)	
Street or PO Box		
City	State	Zip

Table 2. County map with location of facility and routes.

Geographic location of facility = X
Yellow highlight over black line —— = most common route of access
Blue line —— = alternate traffic route
Red line —— = route for transporting hazardous materials
Show north (N), south (S) arrow
Verbal directions for most common and alternate routes of access (during an emergency, it may become difficult to think clearly. These directions to the facility can be read easily when calling for assistance). Most common route: Alternate route:

Table 3. Facility site map marking structures and items of importance for emergencies.

Code	Building, storage tanks, hazardous materials, structures, vehicles, propane tanks, fire extinguishers, flow ways with directional arrows for drainage and areas to block flow, location of materials to use to stop flow, and other facility items of importance
A	
B	
C	
D	
E	
F	
G	
H	
Show north (N), south (S) arrow	

Table 4. Evacuation map marking routes and rendezvous points.

Building or other structure:
Site map code from site map:
Evacuation routes = —— Exits = →
First choice rendezvous point =
Second choice rendezvous point =
Utilities are marked with a red star (*).
Show north (N), south (S) arrow

Table 5. Chemical inventory (pesticides).

Company name:	Date of original inventory:
Geographical address:	Dates of revision:

NOTE: The amount of each pesticide in inventory may fluctuate throughout the year, but the maximum amount of each pesticide stored will not exceed the maximum stated here. The storage location for each pesticide is identical in wording to the corresponding location on the site map (Table 3).

A checked box √ indicates a hazardous waste chemical reported under Community Right-to-Know.

Pesticide trade name	CAS number	Storage location (building name and code)	Maximum amount stored	Month(s) of highest inventory	Size of container

CHEMTREC (Chemical Transportation Emergency Center): 800 262-8200
Florida Poison Control Center: 800 222-1222
Florida Department of Environmental Protection: 850 245-2118
Florida Department of Agriculture and Consumer Services: 850 617-7997

Table 6. Chemical inventory (fertilizers).

Company name:	Date of original inventory:
Geographical address:	Dates of revision:

NOTE: The amount of each fertilizer in inventory may fluctuate throughout the year, but the maximum amount of each fertilizer stored will not exceed the maximum stated here. The storage location for each fertilizer is identical in wording to the corresponding location on the site map (Table 3).

A checked box √ indicates a hazardous waste chemical reported under Community Right-to-Know. A box containing an x indicates an oxidizer.

Fertilizer trade name	CAS number	Storage location (building name and code)	Maximum amount stored	Month(s) of highest inventory	Size of container

CHEMTREC (Chemical Transportation Emergency Center): 800 262-8200
Florida Poison Control Center: 800 222-1222
Florida Department of Environmental Protection: 850 245-2118
Florida Department of Agriculture and Consumer Services: 850 617-7997

Table 7. Chemical inventory (fuels).

Company name:	Date of original inventory:
Geographical address:	Dates of revision:

NOTE: The amount of each fuel in inventory may fluctuate throughout the year, but the maximum amount of each fuel stored will not exceed the maximum stated here. The storage location for each fuel is identical in wording to the corresponding location on the site map (Table 3).

A checked box √ indicates a hazardous waste chemical reported under Community Right-to-Know.

Fuel	CAS number	Storage location (building name and code)	Maximum amount stored	Month(s) of highest inventory	Size of container

CHEMTREC (Chemical Transportation Emergency Center): 800 262-8200
Florida Poison Control Center: 800 222-1222
Florida Department of Environmental Protection: 850 245-2118
Florida Department of Agriculture and Consumer Services: 850 617-7997

Table 8. Fire emergency response information sheet.

Facility name: **Facility fire protection district:** **Fire department telephone:** **Latitude & longitude coordinates for facility:**	
Owner/Manager: 2nd contact person: 3rd contact person:	Phone: Phone: Phone:
Electric power company: Account number:	Phone: Meter number:
Is there a disconnect between the meter base and the buildings? Y N	
Natural gas company: Account number:	Phone: Meter number:
Propane company: Account number: Phone: Location and size of propane tanks (marked on the facility site map):	
Other fuels and locations (marked on the facility site map):	
Fire mitigation Fire detection equipment inspection date: Fire extinguishers re-charge date: The following should have their locations marked on the facility site map: • shut-off valves • fire extinguishers • self-contained breathing apparatus • spare compressed breathing air tanks • earth moving equipment • portable water pumps • street barriers • sand bags	
Hazardous materials Are hazardous materials stored in the facility? Y N If yes, are their locations marked on the facility site map? Y N	
Location of evacuation routes marked? Y N	
CHEMTREC (Chemical Transportation Emergency Center): 800 262-8200 **Florida Poison Control Center: 800 222-1222** **Florida Department of Environmental Protection: 850 245-2118** **Florida Department of Agriculture and Consumer Services: 850 617-7997**	