DISASTER PLANNING TIPS FOR FACILITIES STORING AND HANDLING HAZMATS

TIPS FOR IMPROVING PLANS TOWARD PREVENTING OR MINIMIZING ENVIRONMENTAL DAMAGE FROM HAZARDOUS SUBSTANCES DURING LOCAL AND AREA-WIDE DISASTERS

Disclaimer: The information presented here comes from a wide variety of professionals working with or for facilities, both private and public, where hazardous materials, hazardous substances, and hazardous wastes are handled and stored. This information is particularly useful to facilities where hazards and risks have been determined to be significant enough to warrant extra measures and planning to protect the environment should a local or area-wide disaster, man-made or natural, occur.

Regulations and permit requirements authorized by government agencies or international or national industry standards may already exist to assure facilities and their neighbors and the environment are adequately protected, and the user of the information below should consult with and adhere to established standards first.

In such cases where a facility is not required to have such plans or permits or where such regulations and terms and conditions of such permits or industry standards do not address situations unique to each facility, these suggestions from professionals experienced in planning for and responding to HAZMAT emergencies can be helpful in improving the quality of a facility's disaster plan.

As with regulations, permits and industry standards, these suggested guidelines will not guarantee absolute safety and protection for facility employees, the public or the environment.

This information is intended to be educational and helpful for those engaged in developing their own plans. The final determination of the use of this information and any unanticipated benefits and consequences that might result thereof rest with the user of this information, not the authors.

1. **DEVELOP YOUR PLAN NOW – BEFORE A DISASTER**: Plan now for possible emergency situations (Hurricane, etc) and document details of all mitigation actions planned as a pre-event checklist to ensure facility personnel are prepared to implement them when there is a threat.
2. **TRAIN YOUR PERSONNEL ON THE PLAN AND EXERCISE YOUR PLAN**: Train facility personnel on established procedures and timelines to ensure actions will be accomplished before arrival of the threat event (hurricane, etc). Have at least one exercise to walk through the process of securing the facility and reentry/recovery.
3. **COORDINATE WITH LOCAL AGENCIES**: Coordinate with your local fire department for their assistance and specific recommendations for your facility. Also coordinate with local authorities for immediate re-entry to your facility after. Establish, in advance, lines of communication with emergency response agencies and other stakeholders that by-pass automated telephone answering systems.
4. **JOINT PLANNING WITH NEIGHBORING BUSINESSES**: Coordinate planning efforts with neighboring businesses – a disaster that affects one business will also impact others nearby.
5. **PRE-ARRANGED AGREEMENTS FOR EMERGENCY PERMITS**: Have a pre-arranged agreement (before a disaster strikes) with the Florida Dept of Environmental Protection Hazardous Waste Section for activating an emergency permit (in writing if time allows, or by phone if time is critical) to respond to any release or engaging in any emergency treatment under hazardous waste regulations to minimize the effects of a release (i.e. on-site destructive burning, chemical fixation, deactivating or treating a flammable, toxic, or reactive material or waste, etc).
6. **PRE-ARRANGED AGREEMENTS FOR EMERGENCY SUPPORT:** Have pre-arranged agreements with providers who can perform emergency transportation, medical response, debris removal, disaster clean-up, spill removal teams, heavy equipment rental, and portable communications and computer restoration and recovery systems. Have alternate arrangements with such service providers located within and separately outside of a 100-mile radius from affected areas. To access hazmat areas quickly after a disaster, roadways may need to be cleared of debris and sharp objects.
7. **CONSIDER MATERIAL COMPATABILITY**: In all planning, consider material compatibility when planning to store/contain different products in close proximity (i.e.: do not band barrels containing products that may

react violently together).

8. **MAINTAIN CURRENT INVENTORY**: Always maintain an up-to-date inventory of hazardous materials so an accurate accounting of HAZMAT losses can be accomplished after an event to assess any environmental impacts.
9. **MOVE HAZMATS**: If possible, move HAZMATS out the potentially affected area in advance of impact. However, ensure that the transportation of such materials to do not lead to further exposure to impact from a disaster in another part of the region or area, such as in slow-moving traffic on a bridge or open highway. “In advance” means allowing for plenty of time to relocate hazmats before a disaster strikes. Locally, moving containers from a nearby spill, or buildings near a fire could reduce the overall impact of the disaster providing those who are doing the handling and moving are adequately protected.
10. **STORAGE TANKS**: Decide whether storage tanks need to be drained and product or waste moved out of the region before a disaster strikes. Determine if tanks are to be filled to capacity to maximize stability and minimize movement by wind or surge flooding. Storage tanks with floating roofs should be filled to capacity to prevent heavy water accumulation. Take steps to provide extra security and protection for bulkheads, valves, manifolds and exposed piping from flying debris and hydraulic pressure from flooding.
11. **LEAK DETECTION SYSTEMS**: Ensure all leak detection systems are working and backup power systems are operational – these should be mounted above the highest expected water levels.
12. **BAND BARRELS/CONTAINERS TOGETHER:** Band barrels together in groups and, if they must be left outside, secure them inside a sturdy fence. Consider anchoring them with cargo nets or other suitable devices to a sturdy object to prevent movement by water or wind.
13. **MARK CONTAINERS**: Be sure all containers are well marked for easy identification of contents from a distance. Add “RQ” to containers containing reportable quantities of hazardous chemicals.
14. **SECURE SMALL CONTAINERS**: Secure small containers inside lockable safety cabinets or leak-proof buildings/rooms/vaults. Recommend using hazardous materials storage cabinets which meet NFPA criteria. Other small containers can be over packed as “lab-packs” inside leak-proof drums segregated by incompatibility groups.
15. **SECONDARY CONTAINMENT**: Where secondary containment is exposed to storm water and is depended upon to capture leaks from a chemical container or tank, ensure the containment system is empty before shutting down to minimize the overflow of liquid in case heavy rains accompany a severe storm or hurricane.
16. **STATIC ELECTRICITY AND LIGHTNING PROTECTION**: Take steps to eliminate static electricity in areas where ignitable vapors or dust could occur before, during, or following a disaster. http://www.epa.gov/oem/docs/chem/lit-flam.pdf
    a. Ensure that ignitable materials are properly earth-bonded or grounded in accordance with NFPA 77 and OSHA 1910.106
    b. Take extra precaution to prevent aerosol or high pressure release of high resistivity liquids or dusts. NFPA 30B, NFPA 61, NFPA 499
    c. Consider using lightning protection systems such as multipoint ionizers to help dissipate the effect of lightning strikes. See NFPA 780.