

To The Point

Flood Emergency Response Plan

CHUBB®



Floods are the most common and widespread natural disaster in the world, accounting for almost half of all natural disasters. Most floods develop slowly over a period of days. Flash floods, however, are walls of water that develop in a matter of minutes. Even areas that do not have a history of flooding are not immune - one quarter of all flooding occurs in areas with low to moderate flood risk.

A Flood Emergency Response Plan (FERP) is one component of an effective business continuity plan. A FERP is activated when a flood is imminent. It is important to have a separate response plan for flood emergencies. General site emergency response plans are often focused on fire or day-to-day hazards and do not address flooding situations. Pre-determining actions to take in the event of a flood protects employees, saves valuable time, and can significantly reduce property damage and business interruption.

Having a comprehensive FERP in place helps:

- Establish a clear line of authority to activate the plan, redirect resources, approve immediate financial

expenditures, and shut down operations if necessary.

- Protect employees from injury.
- Identify appropriate actions to prevent water from entering key areas or buildings.
- Create procedures to safely isolate and shut down electrical equipment.
- Determine the actions needed to relocate or protect key equipment/material.

Flood Scenarios

It is essential to begin with anticipating likely sources of flooding that could impact your facility as well as assessing your business' resiliency. For each flood source, determine:

- Climatic forecasts and weather events that could cause the flood
- Time of year flooding may occur
- Method of getting advance warning of the flood, including reliability and amount of warning time available
- Upstream flood control projects such as levees and dams

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- Extent of flooding expected (depth, rate of rise, water velocity, etc.)
- How long flood levels are likely to remain elevated on site
- Potential for closed access roads and bridges to your facility
- Local area drainage and drainage within your facility
- Vulnerability of critical areas, especially those located below grade

Prevention Measures

Implementing prevention measures long before a flood event can minimize its impact. Some of these could include:

- Store critical records and key equipment in higher locations
- Install protective walls and waterproof closures
- Consider the need for backup systems:
 - portable non-electric pumps to remove floodwater.
 - alternate power sources, such as diesel generators or gasoline-powered pumps.
 - battery-powered emergency lighting
- Install check valves to prevent water from coming in where utility and sewer lines enter the facility

Emergency Management Elements

- Define responsibilities of the emergency response team and senior management and establish clear levels of authority.
- Identify resources for updated flood information such as FEMA and OSHA and develop a reliable communication link with storm warning and forecast centers.
- Prioritize critical business functions in order to mobilize sufficient resources quickly.
- Maintain contact lists of key personnel, suppliers, and customers.

- Maintain facility documentation including site plan, building floor plans, emergency shutoffs, utility systems, fire protection systems, etc.
- Detail criteria for implementing the FERP.
- Identify actions and resources for post flooding repair and business recovery.

Emergency Response Procedures

The FERP should address direction and control, communication, protection of employees, property protection, and evacuation.

Direction and Control is a function that obtains and analyzes information that will form the basis of critical decisions during the emergency. Identify an Emergency Operations Center where decision makers can gather. This should be located in an area not likely to be involved in the flood.

Communication is critical during an emergency. Your plan must address the communication functions you may need to perform in an emergency, and the maintenance and backup systems needed to support them. Consider communication with employees, customers, suppliers, governmental officials, and the media.

Protection of Employees must be a top priority when responding to a flood emergency. Workers called upon to respond to flooded areas are at risk for injury and illness, so arrange for personal protection against hazards commonly associated with flooded areas:

- Electrical hazards
- Carbon monoxide
- Ergonomic hazards
- Thermal stresses
- Heavy equipment operation
- Structural instability
- Hazardous materials
- Cold weather exposure
- Falls
- Dehydration
- Biohazards

Property Protection measures help minimize the damage of rising waters.

- Secure rack structures to prevent toppling
- Protect fire protection equipment
- Create a water barrier for openings with sandbags, flood doors, flood shields or inflatable barriers
- Move vulnerable equipment, raw materials, and finished products away from doors and windows, and cover equipment with a water-resistant tarp
- Establish shutdown/isolation procedures for equipment and utilities
- Establish procedures for complete facility shutdown
- Retain vendors to salvage damaged equipment

Evacuation may be needed for your facility or even the entire community. Detailed procedures should be documented in the plan. Security needs, medical emergencies, and relocation should be considered.

As with any emergency response plan, it is essential to train employees before a flood event and test the plan regularly. Schedule periodic exercises of the FERP to identify weaknesses and problem areas. Modify the plan as changes occur in operations, equipment, and key personnel.

Resources

FEMA [www.fema.gov]

OSHA [www.osha.gov]

READY [www.ready.gov]

Learn More & Connect

For more information on protecting your business, contact your local risk engineer, visit the [Chubb Risk Consulting Library](http://www.chubb.com/riskconsulting), or check out www.chubb.com/riskconsulting.