

## Earthquake Information

**Earthquakes:** earthquakes occur most frequently west of the Rocky Mountains, although historically the most violent earthquakes have occurred in the central United States. Earthquakes occur suddenly and without warning.

Earthquakes can seriously damage buildings and their contents; disrupt gas, electric, and telephone services; and trigger landslides, avalanches, flash floods, fires, and tsunamis. Aftershocks can occur for weeks following an earthquake.

In many buildings, the greatest danger to people in an earthquake is when equipment and non-structural elements such as ceilings, partitions, windows, and lighting fixtures shake loose.

### Planning Considerations:

Following are guidelines for preparing for earthquakes:

- Asses your facility's vulnerability to earthquakes. Ask local government agencies for seismic information for your area.
- Have your facility inspected by a structural engineer. Develop and prioritize strengthening measures. These may include:
  - Adding steel bracing to frames.
  - Adding sheer walls to frames.
  - Strengthening columns and building foundations.
  - Replacing un-reinforced brick filler walls.
- Follow safety codes when constructing a facility or making renovations.
- Inspect non-structural systems such as air conditioning, communications, and pollution control systems. Asses the potential for damage. Prioritize measures to prevent damages.
- Inspect your facility for any item that could fall, spill, break, or move during an earthquake. Take steps to reduce these hazards by:
  - Moving large and heavy objects to lower shelves or the floor. Hang heavy items away from where people work.
  - Securing shelves, filing cabinets, tall furniture, desktop equipment, computers, printers, copiers, and light fixtures.
  - Securing fixed equipment and heavy machinery to the floor. Larger equipment can be placed on casters and attached to tethers which attach to the wall.
  - Adding bracing to suspended ceilings, if necessary.
  - Installing safety glass where appropriate.
  - Securing large utility and process piping.

- Keep copies of design drawings of the facility to be used in assessing the facility's safety after an earthquake.
- Review processes for handling and storing hazardous materials. Have incompatible chemicals stored separately.
- Ask your insurance carrier about earthquake insurance and mitigation techniques.
- Establish procedures to determine whether an evacuation is necessary after an earthquake.
- Designate areas in the facility away from exterior walls and windows where occupants should gather after an earthquake if an evacuation is not necessary.
- Conduct earthquake drills. Provide personnel with the following safety information:
  - In an earthquake, if indoors, stay there. Take cover under a sturdy piece of furniture or counter, or brace yourself against an inside wall. Protect your head and neck.
  - If outdoors, move into the open, away from buildings, street lights, and utility wires.
  - After an earthquake, stay away from windows, skylights, and items that could fall. Do not use the elevators.
  - Use stairways to leave the building if it is determined that a building evacuation is necessary.