

## **Earthquake Preparedness Suggestions For the Nevada Warehouse Merchandising Industry**

If there is a strong earthquake, warehouse-style merchandising operations may experience unique types of problems. Typically these stores have very high shelves, with stocks of merchandise stored above the open boxes at levels that the customers can reach. This presents a potential for customer and employee injuries caused by merchandise falling from high above their heads. Complete mitigation of this hazard may be inconsistent with the economical advantages that this approach to business is able to provide. The purpose of this information sheet is to suggest some relatively inexpensive steps that can be taken to mitigate these problems.

### **Before the earthquake:**

#### **Nonstructural hazards**

We suggest that you approach the earthquake with the assumption that your building's structure will not be damaged in an earthquake. Buildings that are constructed to meet modern codes may also experience some damage, but there is nothing you can do about that. However, in recent earthquakes, nonstructural damage has caused far greater economic losses. Nonstructural damage is what happens when items fall off shelves and break. There is plenty you can do to avoid this kind of problem. If you prevent this, you will avoid economic losses due to damage to your stocks, and you will have prevented potential customer injuries caused by the falling of the merchandise.

First, be sure that your shelves will not topple. In general, shelves are bolted to the floor. Unfortunately, if the earthquake forces are great enough to topple the shelf without this type of restraint, these bolts are not effective for holding the shelf in place. The best way to secure the shelves from falling is to tie them together at the top instead, with cross-bars from one shelf-top to the next that are comparable to the strength of the posts that hold the shelves.

Second, consider when it will be feasible to restrain merchandise from falling. For lighter-weight boxes, bungee cords may be sufficient to prevent boxes from sliding off the shelves. For heavier boxes, some rigid metal bars would be more appropriate.

#### **Employee training**

Identify the safest places in your store from hazards of falling objects. In many earthquakes, there are a few seconds of weaker shaking before the strongest shaking occurs. Train your employees to move to these areas immediately when shaking is detected, and to immediately and clearly instruct all customers to urgently move to those areas.

#### **For More Information**

Nevada Seismological Laboratory  
Nevada Earthquake Safety Council

## **After the earthquake...**

### **Facility Check**

Immediately dispatch a team of employees to check every aisle. Immediate issues are:

- Injuries
- Hazardous chemical spills.
- Telephone should be “hooked”

### **Telephone**

Some of your customers may want to advise family/friends that they are ok, particularly if they have traveled from outside the area. We discourage using the telephone except in case of emergency. Telephone service is likely to be very limited and overwhelmed. Advise your customer to avoid calling if they can, but that if they absolutely must call, they should make their calls very short, and call only one contact, who can then tell others. If you have email service, you can offer the customer that as an alternative.

### **Travel – by car**

Advise out-of-town customers to wait until the road conditions are known before leaving. Depending on the earthquake location, roads may be blocked by landslides or bridge failures. If customers leave immediately, a possible outcome is traffic jams at road closures, obstructing emergency vehicles. The best advice is to wait until they know they can go. Establish a clearing house for road information, where information gathered by one person can be given to others. Tell your customers that you are doing it, and make a diligent effort to determine what transportation options are viable. Advise guests that gas stations may lose power, and consequently that gas supplies may be limited.

### **Information**

The customer will want to know what happened. Be sure to get reliable information from the news media, government sources, or the Nevada Seismological Laboratory. Avoid spreading rumors. Car radios may be able to receive information if AC power is interrupted.

- Road Report
- Nevada Seismological Laboratory