Lesson Learned Briefing

No.: LL17-0012

Title: Overlaoded Shelves Can Cause Serious Injury in Seconds

Event: LBNL Event

Event Date: 06/20/2017

Category: ESH-General - Accident/Injury-Office Environments, Accident/Injury-Research & Lab Areas, Accident/Injury-General

Lesson Learned Statement:
Overloaded wall shelves can collapse resulting in serious injury and/or property damage. Shelves that are overloaded may come down with no warning whatsoever, giving employees no chance to get out of the way. There are a few things you can do to prevent overloading shelves and recognizing hazards before an accident occurs.

1. Know the load capacity of the shelves you want to store books and equipment on. Books and lab equipment are heavy and can contribute to overloading the capacity of shelves. You can perform a quick calculation using the following information to reduce the likelihood of overloading shelves: a typical 33" shelf holds up to 110 lbs. A box of books measuring 12x12x12 weighs about 40 lbs.
2. Periodically check shelves in offices and lab spaces for indications that shelves are (or close to being) overloaded. Sagging shelves, damage to walls where the shelves are anchored, shelf brackets pulling away from the wall are signs that a shelf is overloaded. Contact your Division Safety Coordinator and/or put in a Work Order to have shelves with these indications reviewed and fixed, as appropriate.
3. Properly install shelves and cabinets. Contact the Facilities Division to ensure shelves properly installed and cabinets are properly positioned and seismically braced. A couple of considerations: in most cases, a wall penetration permit is needed to install shelves or seismically brace cabinets. Shelves must be installed in a way to ensure that items stored on shelves are at least 18 inches from a fire sprinkler head.

Discussion:
A set of shelves in an office area collapsed on to the working surface below. Fortunately, the office worker was not working at their desk when the collapse took place. The cause of the collapse was attributed to two factors:

1. The shelves were not properly installed. The wrong types of screws were used and they were not properly anchored into the wall studs.
2. The shelves were overloaded with numerous books and files. The weight exceeded the loading the shelves could withstand.

See attached photos of the incident.

Lessons Learned are part of the ISM Core Function 5, Feedback and Improvement. Applicable Lessons Learned are to be considered during working planning activities and incorporated in work processes, prior to performing work.

Please contact the following subject matter experts if you have any questions regarding this briefing.

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Uploaded documents/attachments:

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IMG_2569.JPG

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