

Attachment No. 1
Advisory Committee Background and Overview
General Industry Safety Orders, Section 3241.2
Earthquake Hazards in the Workplace

Background:

This proposed rulemaking is the result of a Petition to the Board (OSHSB File No. 477, adopted March 16, 2006), which requested the Board to amend Title 8, California Code of Regulations, concerning seismic bracing of building contents, including shelving, racks, equipment and furnishings, in order to safeguard employees against the hazards of toppling and falling items in the event of an earthquake.

The Petitioner believes that Title 8 safety orders lack specificity concerning provisions for design and installation of building contents, including floor-supported shelving, cabinets, racks, and other such items, to safeguard against the hazards of overturning. Thus, Title 8 earthquake safety requirements are confusing to the regulated public. The Petitioner opined that the California Building Code (CBC) in effect at the time of the petition was quite specific that any items 5 feet and taller must be seismically braced.¹ Anything less than 5 feet in height is exempt if the supporting base is two-thirds of the overall height. The Petitioner requested that Title 8 be amended to either adopt Title 24 building standards or reference them in order to clarify provisions for anchorage and bracing of building contents. The Petitioner also believed the Board should also clarify that the path of egress must be maintained in the event of a seismic event.

Federal standards for material storage are found in 29 CFR 1910 Subpart N, Materials Handling and Storage. Section 1910.176, addresses the subject of storage in general terms; however, it does not address the issues that the Petitioner raised in his petition request.

Existing Section 3241(c) addresses the issue in general terms. It provides:

“(c) Material, wherever stored, shall not create a hazard. It shall be limited in height and shall be piled, stacked, or racked in a manner designed to prevent it from tipping, falling, collapsing, rolling or spreading. Racks, bins, planks, sleepers, bars, strips, blocks, sheets, shall be used where necessary to make the piles stable.”

Title 24 building standards focus primarily on structural requirements, whereas Title 8 standards are directed toward protecting employees from hazards of stored objects and materials falling from shelving and racks.

Board staff does not intend to propose building standards²; however, Board staff is of the opinion that a potential gap in coverage may exist between Title 24 building standards and Title 8 safety orders due to lack of clarity regarding seismic bracing and anchorage for building

¹ CBC Table 16A-O, which applies to certain sensitive occupancies, uses a 5 ft. trigger height. Table 16-O, generally used by local building officials uses a 6 ft. trigger height.

² Under the provisions of Health and Safety Code Section 18909, standards adopted by the Board are not building standards.

contents that could present a toppling hazard to employees or that could block the path of egress as a result of an earthquake.

Staff notes that, due to the wide variety of businesses and occupations in California, there are two different chapters of CBC seismic standards that can apply to California work places:

- 2001 CBC Chapter 16A applies to:
 - Community colleges, public schools, state-owned or state-leased essential services buildings which are regulated by the Division of the State Architect (DSA),
 - Hospitals, skilled nursing facilities, intermediate-care facilities and correctional treatment centers which are regulated by the Office of Statewide Health Planning and Development (OSHPD).
- 2001 CBC Chapter 16 applies to all other occupancies, generally under the jurisdiction of local building officials.

There are differences in CBC seismic provisions based on occupancy. For example, CBC Chapter 16A has a 5 foot trigger height for requiring seismic bracing for storage racks versus Chapter 16, which has a 6 foot trigger height. Other differences based on occupancy and seismic hazard also exist.

Thus, the agency performing the building inspection (e.g., DSA, OSHPD, fire marshal, and building officials) will be guided by the designed occupancy of the construction. These “authorities having jurisdiction” (AHJ), typically will inspect the structure through the completion of construction. Once construction is completed and the certificate of occupancy is issued, the building AHJ no longer inspects the building unless unsafe structural conditions or fire and life safety hazards are reported or suspected.

Storage racks installed during construction are inspected by the building AHJ as “non-building structures.” However, shelving, cabinets, and other furnishings are frequently installed after the building certificate of occupancy has been issued; thus they are not inspected by the building AHJ.

Since most shelving, cabinets and furnishings are installed after completion of construction, Board staff believes that the GISO can be amended without conflicting with building standards. As already noted, because of the current lack of clarity in Title 8 standards, there is confusion among the regulated public as to requirements for seismic anchorage and restraint for non-structural components installed after building occupancy.

Overview:

A new Section 3241.2 is proposed that would include the following provisions:

- Earthquake hazards shall be evaluated by the employer.
- Where employee exposures to hazards are found to exist, they shall be mitigated.
- Examples of mitigation methods are provided.
- Exceptions from these standards are listed.