



EERI Policy Position Statement

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Mitigation of Nonstructural Hazards in Schools

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EERI Policy Position

Students, staff, and faculty should be kept safe from injury by nonstructural items in school buildings in regions for which an earthquake risk has been identified.

Background

Nonstructural hazards pose a great risk to students, staff and visitors in schools during earthquakes. Nonstructural items like ceiling tiles, light fixtures, bookshelves, file cabinets, computer monitors, projectors, vending machines, chimneys, parapets, large windows, and other items can fall and injure or kill occupants and block safe building egress. In the 1994 earthquake in Northridge, California, light fixtures weighing up to 80 pounds each fell on students' desks in approximately 100 classrooms. Had the earthquake occurred during school hours, many students and faculty would have been injured. While modern buildings generally met or exceeded code performance standards in the moderate Mw 6.0 South Napa, California, earthquake of 2014, damage to nonstructural components was the greatest contributor to property losses.

In many cases, reducing the falling hazard of nonstructural items is inexpensive and can be completed by facility staff or volunteers. This is an important and relatively easy first step for schools to take when working to identify, prioritize, and mitigate their earthquake risks.

Needed Actions

Legislatures, school districts, and school boards in regions for which earthquake risk has been identified should:

1. Establish programs to identify, prioritize, and mitigate nonstructural hazards in schools.
2. Establish funding mechanisms, financial assistance, and incentives to finance mitigation of nonstructural hazards.
3. Require anchoring and bracing of nonstructural elements to avoid potential falling hazards and ensure safe egress from schools after earthquakes.
4. Encourage additional training by stakeholders for nonstructural school safety.

Further considerations for safe schools should include a screening to assess the integrity of the school building, retrofit or replacement of school buildings found to be vulnerable to earthquake shaking, checking of utilities and other systems important for rapid recovery after earthquakes, and creating community resilience plans that align and prioritize mitigation efforts.