EERI Policy Position Statement
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Promoting the Adoption and Enforcement of Effective Building Codes with Earthquake Provisions in the United States

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EERI Policy Position

EERI supports federal, state, and local adoption, enforcement, and funding of modern, effective building codes with provisions for earthquake design for new and existing buildings in the United States. While the focus of this paper is on United States conditions and recommendations, EERI supports action worldwide.

Background

Risk is directly proportional to hazard, exposure and vulnerability. For earthquakes, the hazard is not a variable that can be reduced. Vulnerability is controlled by the adoption and enforcement of building codes that effectively consider local conditions where increased requirements may be needed. Even so, the adoption of modern, effective building codes with earthquake provisions has been uneven across the country and within individual states. Internationally, the use of codes varies even more widely.

Building codes provide a minimum standard for building design. Without such standards, the variability of engineering, construction quality and enforcement is seldom acceptable. We only need look at the devastation of the 2010 Haiti earthquake where there were virtually no enforced building codes as compared to the 2010 Chile earthquake with modern codes nationwide to see the disparity in construction with and without engineered designs and the use of modern building codes. The primary purpose of a building code is to protect the lives of building occupants. In addition, codes can reduce earthquake damage, thereby minimizing property loss and facilitating response and recovery.

The consideration of population and its exposure to earthquake hazards is important for real risk assessment. Risk is inherently increased in larger population centers independent of the characterization of the hazard itself because a greater populace is exposed to the hazard. Strong statewide building codes are the most effective yet often overlooked aspect of the risk reduction equation because they allow the state to implement uniform code amendments. To be most effective, building codes must have the most current seismic provisions. Outdated codes do not sufficiently reduce seismic risk to new buildings. Modern, effective building codes also regulate the risks posed by existing buildings. Code requirements for existing buildings should also be included in the code adoption. The International Existing Building Code (IEBC) is now adopted as part of the International Building Code (IBC) as of the 2015 editions.

Needed Actions

Federal: Continue to provide incentives such as Pre-Disaster Mitigation Grants (PDMs) to establish a statewide building code in each State.

State: Apply for Pre-Disaster Mitigation and other available grants to adopt and enforce the latest building codes. EERI advocates state building codes be adopted, enacted and administered through one of the following forms of regulation (FEMA, 1998):

1. A state agency responsible for building regulations develops, adopts, and enacts the regulations for mandatory local implementation and enforcement including any amendments necessary to provide for more stringent regulations based on local conditions, standardized on a statewide basis.
2. State building regulations are adopted as a minimum standard. Local jurisdictions are required to adopt and enact equal or more restrictive regulations. Code implementation and enforcement are still mandatory for the local jurisdictions.

Local: Administer and enforce the state building code as a minimum standard. Even in states with no statewide code requirement, localities should adopt a code at least as stringent as the current version of the International Building Code including the seismic provisions. Local jurisdictions should adopt and enact equal or more restrictive regulations with consideration of local risk.