

## **SEISMIC SAFETY POLICY FOR LEASED AND PURCHASED BUILDINGS (2007 Policy)**<sup>1</sup>

It is University policy – to the maximum extent feasible by present earthquake engineering practice – to lease<sup>2</sup> and purchase<sup>3</sup> buildings that provide an acceptable level of earthquake safety for students, employees, and the public who occupy buildings used for University-related purposes. The 2007 *Policy* is a supplement to the *University Policy on Seismic Safety (1995 Policy)* and supersedes the policies issued by Facilities Administration in October 1996 and April 2000. To that end, it establishes minimum requirements to be applied when a campus is considering a lease or purchase:

- For lease and subsequent University occupancy, a building shall be rated “Fair” or better according to criteria set out in the *University Policy On Seismic Safety (1995 Policy)*.<sup>4</sup>
- For purchase and subsequent University occupancy, a building shall be rated “Good,”<sup>5</sup> or alternatively, the campus may purchase and occupy a building that is rated “Fair” provided the Regents’ action item for approval of the transaction includes: 1) an analysis of the economic risk to the University based on a Probable Maximum Loss (PML) Report,<sup>6</sup> including an estimate of the total project cost to repair the building after the seismic event in the PML Report, and 2) an estimate of the total project cost to retrofit the building to achieve a “Good” rating.

One of two evaluation methods may be used to certify a building’s compliance with this policy:

**(A) Independent Review, or (B) Certificate of Applicable Code.** The following building types are deemed to be adequate under the *2007 Policy* and therefore do not require such evaluation methods: 1) one- and two-story wood-frame single-family residences or 2) relocatable structures (e.g., trailers or other portable buildings), but only if the structure does not have a natural gas connection.

### **(A) INDEPENDENT REVIEW**

A structural engineer, licensed by the State of California<sup>7</sup> (not a University employee), shall prepare an ***Independent Review*** of the seismic structural design of the entire building under the following conditions:

1. If the building is to be purchased, or
2. If the building is to be leased, and
  - a. the use is an acute care hospital, an essential services building, or K-12 school, or
  - b. the leased premises are contained in a building NOT constructed or fully retrofitted pursuant to the 1976 or later edition of the Uniform Building Code (UBC), or
  - c. the building contains any of the following construction conditions:
    - i. unreinforced masonry walls;
    - ii. welded steel moment frames (WSMF) constituting the primary structural system of the building which WSMFs (a) have been subjected to a strong ground motion (approximately 0.20g or greater) since construction,<sup>8</sup> or (b) may have low or limited redundancy, or discontinuity, or offsets of the moment frames;
    - iii. flexible diaphragm-rigid walls;
    - iv. apparent additions, or modifications, or repairs to the seismic resisting systems made without a permit;
    - v. hillside construction on a slope steeper than 1-vertical to 3-horizontal;
    - vi. multi-story wood-frame structures with construction over first-story parking (soft-story structures).

3. The Independent Review shall use the most current structural engineering evaluation techniques and data appropriate for the structure type, use, age, and local geotechnical conditions to determine the expected seismic performance of the building and the building's rating within the *University Policy On Seismic Safety (1995 Policy)*. At a minimum, the review shall include:
  - a. a review of drawings and calculations (when available);
  - b. a qualitative evaluation of the structural system and identifying weak links in the system;
  - c. a qualitative comparison of the building's lateral systems for conformance to the current applicable seismic design requirements;
  - d. identification of potential falling hazards that pose a significant life-safety hazard to occupants;
  - e. a discussion of the basis for the building's rating using the performance ratings of the *1995 Policy*.

**(B) CERTIFICATE OF APPLICABLE CODE**

An architect, civil or structural engineer, licensed by the State of California<sup>7</sup> (including a University employee), shall complete the University's ***Certificate of Applicable Code*** form prior to execution of the lease if:

1. a leased space is contained in a building whose design and construction was approved by the local jurisdiction pursuant to the 1997 or later edition of the UBC, or
2. a leased space is contained in a building whose design construction was approved by the local jurisdiction pursuant to the 1976 or later edition of the UBC and does NOT contain any of the construction conditions listed in (A) 2. c. i.-vi. above, or
3. a leased space is contained in a building that has undergone a complete seismic structural retrofit approved pursuant to the 1976 or later edition of the UBC and does NOT contain any of the construction conditions listed in (A) 2. c. i.-vi. above.

If the conditions described in this section (B) cannot be met, Landlord or University shall contract for an Independent Review as described in (A) above. The University may, at its discretion, have the Landlord's report reviewed by its technical advisors.

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<sup>1</sup> Attachments: Decision Tree for the *2007 Policy* and Certificate of Applicable Code form.

<sup>2</sup> The *2007 Policy* also applies to licenses where the licensing of a facility results in that facility's use as a primary work location for a University employee.

<sup>3</sup> The *2007 Policy* also applies to acquisition by purchase or other title transfer (e.g., exchange, gift).

<sup>4</sup> The *University Policy on Seismic Safety (1995 Policy)* evaluation criteria rate buildings as Very Poor, Poor, Fair, and Good depending on the expected seismic performance of the building.

<sup>5</sup> In addition to the definitions contained within the *1995 Policy*, a building shall be deemed to have a "Good" rating if an Independent Review determines that it meets the requirements of the most current edition of the *California Building Code*, Chapter 16, Division VI-R using the reduced seismic hazard (Sec. 1643A.8.1.1.) and the conclusions are favorably reviewed consistent with peer review requirements of the Chapter 16.

<sup>6</sup> PML reports shall be completed following the requirements of ASTM E 2026 as Level 1 investigation for Site Stability, Building Stability, and Building Damageability where PML is defined as the scenario expected loss (SEL) in the design basis earthquake ground motion (DBE).

<sup>7</sup> Or by the State where the building is located.

<sup>8</sup> Currently applies to WSMF buildings built before 1989 in the Santa Cruz/San Francisco Bay Area (Loma Prieta) and built before 1994 in the Los Angeles area (Northridge).