

REAL PROPERTY

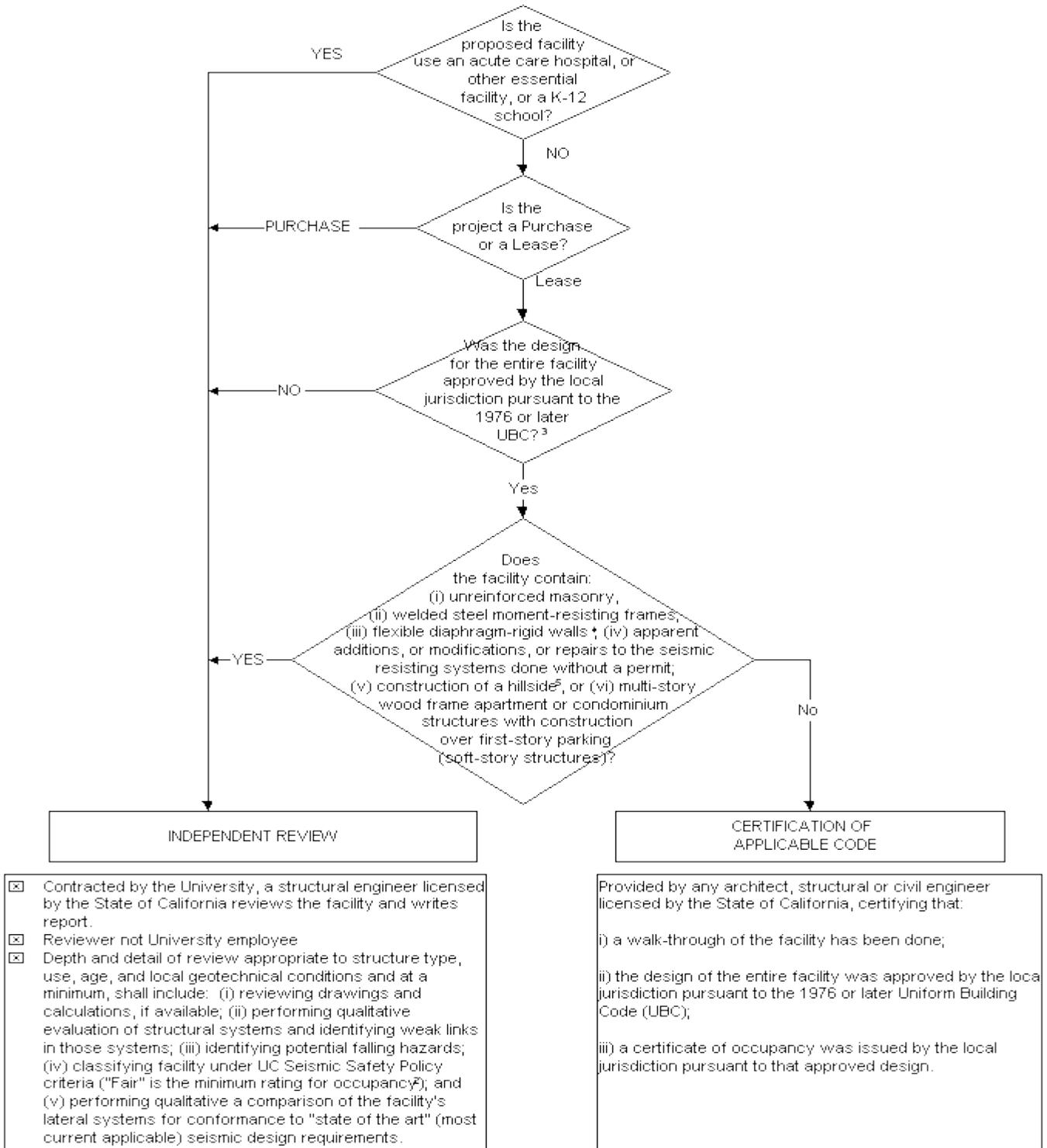
Effective: 04/01/1998

Supersedes:

Review Date:

Issuing Office: [Real Estate Development \(RED\)](#)

SEISMIC SAFETY



¹ Purchase or lease of conventionally constructed 1-2 story wood-frame residences on level sites will be exempt from the policy (see attached commentary).

² Any purchased property should be rated "Good" or the acquisition budget should be sufficient to retrofit the facility.

³ The "entire facility design" refers to original construction, and any additions, modifications and repairs, to the seismic resisting systems.

⁴ For example, concrete tilt-up/reinforced masonry wall buildings with wood roofs and/or floors.

⁵ A hillside is defined as a slope steeper than 1-vertical to 3-horizontal.

⁶ Falling hazards: see UC Facilities Manual - Chapter 5, Seismic Safety

REAL PROPERTY

Section: 440-3 EXHIBIT C

Page 2

Search

Other Sources

Numerical Guide

Effective: 04/01/1998

Supersedes:

Review Date:

Issuing Office: [Real Estate Development \(RED\)](#)

COMMENTARY ON UC SEISMIC SAFETY POLICY FOR LEASED AND PURCHASED FACILITIES

THE POLICY

- OBJECT OF THE POLICY. The object of the policy is life safety, not property protection. In other words, the standard does not assure that the property or its contents will be operational or undamaged after a major seismic event.
- POLICY IS COMPARABLE TO LOCAL/STATE/FEDERAL POLICY DIRECTION. The policy changes, for the most part, are comparable to those contemplated or implemented by local, state, and federal regulators in the wake of the Northridge earthquake.
- RE-EVALUATION OF CURRENTLY OWNED PROPERTY The new policy will not be retroactively applied to currently owned property. The seismic performance of existing facilities will be addressed in a survey of owned properties that is to be completed in the near future.
- APPLICABILITY TO PURCHASE OR LEASE TRANSACTIONS. The policy applies to purchases and to new leases (defined as newly leased space or lease renewals). The policy does not apply to the exercise of options to expand leased space or to extend the lease term that were negotiated prior to the implementation of the new policy. Purchases of single-family wood-frame houses are to be handled on a case-by-case basis (see below).

INDEPENDENT REVIEW

- SEISMIC PERFORMANCE RATING. The Independent Review states the licensed structural engineer's professional evaluation of the anticipated seismic performance of a structure during a "major seismic disturbance." This is defined, for the purposes of the seismic performance ratings, as an earthquake at the site that would be given a Modified Mercalli Intensity Scale (modified by Charles F. Richter in 1958) rating of at least MM IX based on the description of the structural effects, except that an intensity of MM VIII can be utilized for facilities on the Davis campus.

Any to-be-purchased property shall be rated "Good" or the acquisition budget should be sufficient to retrofit the facility and raise it to the "Good" rating. Leased property should be rated "Fair" or "Good." When leased property is initially rated "Poor" or "Very Poor" and seismic retrofitting is included in pre-occupancy construction, the facility should be brought up to a "Good," rather than a "Fair" rating. (In most cases, the cost difference between upgrading a facility to "Good" rather than "Fair" is likely to be marginal.)

REQUIREMENTS FOR INDEPENDENT REVIEW

- HOSPITALS, K-12 SCHOOLS AND ESSENTIAL SERVICES FACILITIES. The California Building Code, CCR, Title 24, Part 2 has special structural requirements for acute care hospitals, K-12 schools, or Essential Services Facilities. Section 16009(2) of

REAL PROPERTY

Section: 440-3 EXHIBIT C

Page 3

Search

Other Sources

Numerical Guide

Effective: 04/01/1998

Supersedes:

Review Date:

Issuing Office: [Real Estate Development \(RED\)](#)

the California Health and Safety Code states that such Essential Services Facilities' uses must comply with all parts of the State Building Standards Code as contained in Title 24, CCR. Section 16007 of the California Health and Safety Code, defines Essential Services Facilities as "any building, including those designed and constructed for public agencies, used, or designed to be used, or any building, a portion of which is used, or designed to be used, as a fire station, police station, emergency operations center, California Highway Patrol, Sheriff's office, or emergency communications dispatch center." The policy requires that the Independent Review utilize the special structural requirements contained in code for these types of uses.

- ACCEPTABLE CODE. The acceptable code has been changed from the 1973 UBC to the 1976 UBC. In 1976, major revisions to the UBC were initiated. These changes included a significant increase in base shear for short- and mid-height buildings. There were special provisions for steel-braced frames to include a 25% increase in brace design force and consideration of brace/connection strength relations. For concrete buildings, ductile detailing was required for all frames resisting lateral force. Design forces were significantly increased for all buildings in 1976. The 1976 UBC is the first code that in most cases required reinforced concrete buildings to be constructed with resistance similar to current code. Therefore, the 1976 code is often used to distinguish "modern buildings" from older buildings.
- UNREINFORCED MASONRY BUILDINGS. Unreinforced masonry buildings (URMs) require Independent Review. Although such buildings have not been permitted to be built since 1933 and the city of Los Angeles Division 88 code changes in 1981 created guidelines for retrofitting these types of structures, there were some strengthened URMs that sustained an unacceptable amount of damage during the Northridge earthquake. Research showed that retrofitted buildings, where the retrofit design included unbonded veneer or exceeded height limitations, did not perform well. A structural engineer needs to assess whether the unreinforced masonry building, even one that may have modifications, additions or repairs, will perform adequately.
- WELDED STEEL MOMENT-RESISTING FRAME STRUCTURES. Welded steel moment-resisting frame structures (SMRFs) did not perform well in the Northridge earthquake. Many fractures were found at welds connecting steel beam flanges to column flanges. The frequency and distribution of recorded failures, and the types of failures, varied so widely from building to building, it is necessary to include this entire category of SMRFs in the list of buildings that must undergo an Independent Review if either of these conditions apply:.

There is a reasonable expectation that an Independent Review will rate the majority of SMRFs either "good" or "fair." SMRFs are not included in this category.

- TILT-UPS AND OTHER FLEXIBLE DIAPHRAGM - RIGID WALL STRUCTURES. Based on the age of construction, there are three categories of this type of building (also known as concrete tilt-ups): (i) buildings constructed before building codes were modified in 1976 to reflect the damage observed during the 1971 San Fernando earthquake; (ii) buildings constructed before 1976 but rehabilitated during the past few years; and, (iii) buildings constructed after the adoption of the 1976 Uniform Building Code and therefore designed to meet the 1976 or later building code provisions. The observed damage in tilt-up buildings during the Northridge earthquake was closely linked to these categories. The buildings in the first category sustained the most damage. Those buildings often failed because the buildings had an insufficient number of ties between

REAL PROPERTY

Section: 440-3 EXHIBIT C

Page 4

Search

Other Sources

Numerical Guide

Effective: 04/01/1998

Supersedes:

Review Date:

Issuing Office: [Real Estate Development \(RED\)](#)

the rigid tilt-up walls and the flexible diaphragms (floors and roofs). In comparison, building types (ii) and (iii) fared somewhat better, however, some still failed. Therefore, all such structures will require an Independent Review; however, there is a reasonable expectation that an Independent Review will rate the majority of rehabilitated tilt-ups either "good" or "fair."

- OTHER TYPES OF STRUCTURES. Inadequately constructed hillside structures, and multi-story wood frame apartment and condominium structures with construction over first-story parking ("soft-story" structures) performed very poorly during the Northridge event. Independent Review is required to ascertain how the structure's unique circumstances (location, structural redundancy, construction quality, etc.) affect the seismic resistance of the structure.

CERTIFICATION OF APPLICABLE CODE

- CERTIFICATION OF APPLICABLE CODE. The Certification of Applicable Code is designed to make it easier for the licensed architect, structural engineer or civil engineer to understand exactly what certification language must be included.

The design of the entire facility must be approved by the local jurisdiction. The design must include all additions, modifications and repairs to the seismic resisting systems. The term "entire facility" refers to all parts of a building or group of buildings that are interrelated. For instance, a one story L-shaped structure with a tower attached to it, even though not constructed at the same time, would be considered a single facility. An office building with a contiguous parking structure would be considered a single facility. For lease transactions, the entire facility is defined as the building or interrelated group of buildings containing the leased premises as well as any common areas as defined in the lease agreement. A separate and free standing parking structure may be considered part of the entire facility.

SINGLE-FAMILY WOOD-FRAME RESIDENCES

- CONVENTIONAL 1 OR 2 STORY WOOD FRAME CONSTRUCTION ON LEVEL SITES. Purchase or lease of conventionally constructed wood-frame one- and two-story single-family residences on sites with slopes less than 1-vertical to 3-horizontal are exempt from the UC Seismic Safety Policy. Most buildings of this class and scale of construction are highly redundant with many interior walls that act structurally. Life-threatening collapses seldom occur in these types of structures.

REAL PROPERTY

Effective: 04/01/1998

Supersedes:

Review Date:

Issuing Office: Real Estate Development (RED)

UNIVERSITY OF CALIFORNIA
CERTIFICATION OF APPLICABLE CODE

I, _____ an architect, structural engineer, or civil engineer, licensed by the State of California, have completed a recent walk-through of the facility and have reviewed the available documentation and hereby certify the following: that the design of the entire facility, known for purposes of this agreement as

(Premises Address Here)

including all additions, modifications, and/or repairs to the seismic resisting systems, was approved by the local jurisdiction pursuant to the 1976 or later edition of the Uniform Building Code. This facility was originally constructed in _____ (year). Additions/modifications/repairs took place in _____ (year(s)) [if applicable].

I further certify that the facility does not contain any of the following: (i) unreinforced masonry; (ii) welded steel moment resisting frames; (iii) flexible diaphragm-rigid walls; (iv) apparent additions, or modifications, or repairs to the seismic resisting systems done without a permit; (v) hillside construction on a slope steeper than 1-vertical to 3-horizontal; or; (vi) multi-story wood frame apartment or condominium structures with construction over first-story parking (soft-story structures).

A copy of the certificate of occupancy is attached.

Printed Name _____ License No. _____

Title _____

Signature _____ Date _____

Firm Name and Address

AFFIX SEAL HERE

* Currently, this applies to welded steel moment frame structures in Santa Cruz and San Francisco built before 1989, and to those in Los Angeles built before 1994.